HYGEIA

THE HEALTH MAGAZINE

Published by the American Medical Association

April, 1928

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Psychoanalysis

Gardening

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HYGEIA, the Health Magazine, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $3.00; for foreign postage add 50 cents. Volume 6, Number 4. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103, Act of October 3, 1917, authorized March 21, 1923.

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535 North Dearborn Street, Chicago

VOLUME 6 — APRIL, 1928 — NUMBER 4

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Among the Contributors to This Issue

CELEBRATING the fifth anniversary of its initial appearance, HYGEIA offers an unusual array of writers and subjects for this, the first spring issue. J. W. BRIDGES, Ph.D., is associate professor of abnormal psychology at McGill University and psychologist for the Canadian National Committee for Mental Hygiene.

An illuminating experiment to learn the ways of quacks and pseudodoctors was the basis for the exposé written by DR. GEORGE E. KELLER, a Montana physician. From the dean of the medical school of the University of Minnesota, DR. E. P. LYON, comes a story of the quacks' attempts to block health legislation.

Two Washington pen women are present—MAY HOWARD BLOEDORN, wife of a Navy medical officer, and CORA DE FOREST GRANT.

Preschool clinics at opposite ends of the United States are described by EDITH LOCHRIDGE REID of Oregon, well known as a contributor to HYGEIA, and PEARL CROSSLEY of San Antonio, Texas.

DR. SAMUEL Z. ORGEL is a New York specialist in the diseases of children and also a psychiatrist. DR. JOHN S. COULTER, who counsels caution in the use of ultraviolet rays, is a member of the faculty of Northwestern University, as is also DR. JOHN L. PORTER, who writes on congenital dislocation of the hip.

WILLIAM THOMPSON is well known for his photographic studies. EARLE DUFFY is an ardent worker in the interest of stream conservation, living in Chicago. RUTH STURTEVANT is connected with the health department of Fort Wayne, Ind. MRS. ANNA DEE WEAVER is a writer who appears in HYGEIA'S pages from time to time.

DR. FRANK BILLINGS has long been prominent in the field of medicine and no one could write more authoritatively of the influence of medicine on civilization. DR. L. D. HUBBARD of St. Elizabeth's Hospital, Washington, D. C., is the author of many articles on the care of the mentally ill.

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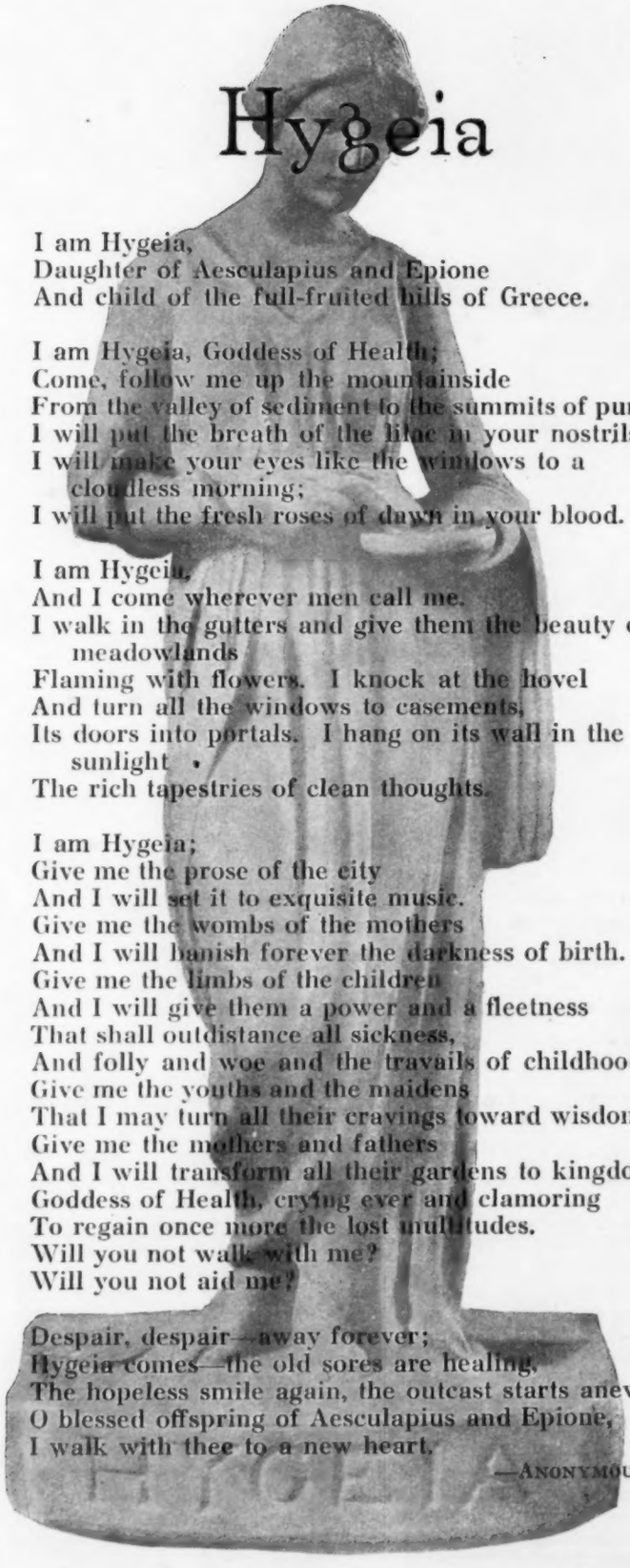
Yearly subscription price, $3.00; for foreign postage add 50 cents.

Hygeia



I am Hygeia,
Daughter of Aesculapius and Epione
And child of the full-fruited hills of Greece.

I am Hygeia, Goddess of Health;
Come, follow me up the mountainside
From the valley of sediment to the summits of purity.
I will put the breath of the lilac in your nostrils;
I will make your eyes like the windows to a
cloudless morning;
I will put the fresh roses of dawn in your blood.

I am Hygeia,
And I come wherever men call me.
I walk in the gutters and give them the beauty of
meadowlands
Flaming with flowers. I knock at the hovel
And turn all the windows to casements,
Its doors into portals. I hang on its wall in the
sunlight
The rich tapestries of clean thoughts.

I am Hygeia;
Give me the prose of the city
And I will set it to exquisite music.
Give me the wombs of the mothers
And I will banish forever the darkness of birth.
Give me the limbs of the children
And I will give them a power and a fleetness
That shall outdistance all sickness,
And folly and woe and the travails of childhood.
Give me the youths and the maidens
That I may turn all their cravings toward wisdom.
Give me the mothers and fathers
And I will transform all their gardens to kingdoms,
Goddess of Health, crying ever and clamoring
To regain once more the lost multitudes.
Will you not walk with me?
Will you not aid me?

Despair, despair—away forever;
Hygeia comes—the old sores are healing,
The hopeless smile again, the outcast starts anew.
O blessed offspring of Aesculapius and Epione,
I walk with thee to a new heart.

—Anonymous.

Psychoanalysis and *Mental Health*

By J. W. Bridges

PSYCHOANALYSIS must not be confused with psychology. It is not the whole of psychology as many readers as well as writers of modern fiction seem to suppose. It may, however, be regarded as a part of psychology or a contribution to psychology.

The term psychoanalysis was first used by Sigmund Freud of Vienna about 1895, and strictly speaking it should be used to designate only his point of view and method of analysis. It has, however, been applied to many modifications of the Freudian views, as, for example, to those of Carl Jung of Zurich, Alfred Adler of Vienna, and a number of English and American authorities. In this paper no attempt is made to trace the history of psychoanalysis since 1895, but the aim is rather to present some of the most important aspects of the subject as the writer sees it at the present time.

Man's Various Selves

In the first place psychoanalysis has called attention to the fact that the conscious personality is not the total personality. In other words, the self that we are aware of now is not our total or only self. Before the days of psychoanalysis, William James, the great American psychologist, in an interesting chapter on "The Self" in his "Principles of Psychology," described the various selves that the same individual may possess in different situations. He referred to a man's home self, his club self, his business self, and so forth. His home self is the self his wife and children know; his club self is what he appears to his fellows at the club; and his business self the self manifested at his work in his shop or office. These selves may be very different in certain cases. They are, however, all known by the individual concerned and merely manifest themselves on different occasions.

Psychoanalysis has shown that there may be a self, or rather a part of the self, that is never known by the person concerned, though it may sometimes be known by others who observe his behavior. Perhaps Robert Burns had a similar idea in mind when he said: "O wad some pow'r the giftie gie us, to see oursels as ithers see us." One aim of psychoanalysis is to make us conscious of our total personality, to make us know ourselves better.

Emphasizes Instincts and Emotions

Secondly, psychoanalysis has laid special emphasis on the life of instinct and emotion. Psychology had up to this time been chiefly concerned with an analysis of the intellect and had neglected the instinctive impulses, which are the chief springs of human action. Psychoanalysis has shown that these primal urges are the very core and center of one's personality.

Freud, the originator of psychoanalysis, lays special emphasis on the sexual instinct as the most fundamental driving force in human behavior. Adler, on the other hand, emphasizes what he calls the ego instincts—that is, the wishes for power and for security—as the primary motives. Man's behavior, he says, is determined by the desire to dominate his fellow men, to master as much of the world as possible, and to attain the greatest possible measure of comfort and security.

Both the sex and the ego instincts are no doubt universal and important drives, or motives, but there are surely others that these authors have overlooked, such as hunger, fear, pugnacity and

the social instincts. Hunger is without doubt a powerful incentive to action. Fear may, as is well known, completely dominate a person at times and greatly influence his behavior and his whole career. Pugnacity, or the fighting instinct, likewise accounts for much in human behavior; and it is mainly the social instinct that leads human beings to congregate in large cities and to submit to social customs and regulations.

In the third place, psychoanalysis has taught us much about mental conflict, which has come in for a great deal of discussion in popular literature. Mental conflict arises out of the fact that a person is not a complete unity but is constituted of many diverse elements such as the various selves that have already been mentioned. If a person were a single and complete unit there could be no mental conflict; his ideas would be consistent, his feelings and emotions harmonious, and his behavior coherent. Such, however, is not the case. In the same personality there is often marked incompatibility of ideas, antagonism of feelings and impulses, and lack of harmony in behavior.

This mental conflict may show itself in various ways. It may appear as a conflict with reality. Reality may be too painful for the individual to accept as it may be in direct opposition to his wishes. This may be illustrated by a person's experience when he discovers he has overdrawn his bank account or when he sees the horse he backed coming in as an "also ran." In such cases it may take him a long time to accept the facts, because of their unpleasant nature. There are people, especially children, who altogether refuse to face painful facts and who go on living in a world of fantasy in which their desires are easily realized. Such people are not well adapted to the real world in which they must live and work.

A second form of conflict arises in relation to authority. The individual from his earliest childhood is obliged to submit to authority, first of parents, then of teachers, and later of law and social convention. This acceptance of authority is always difficult because it comes into conflict with the desire to assert one's individuality and to dominate others. Often when the authority is too severe or crushing the individual openly rebels against it. He may become an extreme radical of the revolutionary type. He may, on the other hand, succumb to such authority and be heard of no more.

Another form of conflict is that which occurs between instincts or emotions, as between fear and curiosity, or fear and anger, or love and ambition. This may be illustrated by a man's experience when he hears a noise in the basement in the middle of the night. He wishes to assert himself by making an investigation, thus proving his heroism in his own or his wife's opinion. On the other hand, he is afraid of the possible danger. In such cases the mental conflict may be so great as to prevent satisfactory action. Mental conflict produces a feeling of anxiety, and when it is greatly prolonged, as in the frequently occurring conflict between love and duty, this feeling of anxiety becomes very pronounced and persistent. It is then sometimes referred to as an anxiety neurosis. Mental conflict is not the only cause of feelings of anxiety but it is no doubt the most common one.

A fourth factor brought to light by psychoanalysis is repression. This means the pushing out of mind of some unacceptable experience. Repression is the result of mental conflict. For example, when one has in mind two apparently incompatible systems of ideas, such as those pertaining to poetry and to science, it is easy to solve the conflict by forgetting one of the systems and keeping only the remaining one in mind. Or if a man experiences the emotions of love and hate for the same person, loving the person for one set of characteristics and hating her for another, it often happens that either the hate or the love is put out of mind. He then feels only love or hatred and is unaware of the repressed emotion of the opposite kind. It is important to note that according to the view here expressed either term of the conflict may be repressed—the desirable or the undesirable. This is contrary to the Freudian view that only the socially unacceptable or immoral trend is repressed.

Repressed systems of ideas, feelings and wishes are called unconscious complexes. It follows from what has been said that these unconscious complexes are often directly opposite to our conscious experience and behavior. There is thus some truth in the saying that when a woman says "no," she means "yes." Strictly speaking, she means both no and yes; no, consciously, yes, perhaps, unconsciously.

One of the most frequent and obvious consequences of repression is called overcompen-

sation, or defense reaction. It is an exaggerated development in consciousness and in behavior of the very opposite of what has been repressed. If in the previously mentioned conflict between scientific and poetic thought scientific ideas are repressed, a person may adopt a poetic or mystical account of life, very beautiful perhaps, but too impractical for a work-a-day world. On the other hand, if his poetic ideas are repressed he may become too dogmatically scientific. In some cases the two systems of ideas may alternate and the person may change from a scientific to a mystical view according to his company or the state of his health or the weather.

Cynic Is Sentimental at Heart

Another example of overcompensation is the act of repressing the sentimental side of one's character and becoming cynical, perhaps as a result of disappointment in an early love affair. It is well known that cynical persons are often sentimental at heart. This is perhaps why a cynical old bachelor may, if he falls in love late in life, become unusually sentimental and perhaps silly. The love sentiment repressed in adolescence emerges in its undeveloped form and his resulting behavior is thus not in accord with his age and other experiences. Again, if a person represses a feeling of inferiority, owing to some real or supposed defect in his make-up, he may develop the opposite traits of character; namely, extreme vanity, conceit and aggressiveness. Also when a person's sensuality is repressed he may become on the surface extremely prudish and exacting.

It is characteristic of emotions and impulses that are due to overcompensation that they are intense and impelling. Therefore if we experience any unusually strong emotions or dislikes, we should suspect that we are perhaps overcompensating for the opposite impulse or feeling within ourselves. This is particularly true of prejudice and intolerance. We cannot tolerate what we are defending ourselves against.

Another result of repression is called projection. This means that a person may ascribe to others what is characteristic of his own unconscious self, and he may condemn it in others all the more strongly because it is part of his nature that he thinks undesirable. This may account in part for the prevailing attitude in society toward the criminal. Projection is also illustrated in the universal tendency to believe that the person we hate, hates us; that the person we love, loves us; that the person we have broken faith with is unfaithful to us, and so on. Such beliefs are satisfying to the individual, and they often enable him to avoid self-reproach.

Projection also accounts in part for the pleasure people take in gossip and scandal-mongering. In this way they get a vicarious expression of their own desires in the gossip about their occurrence in other persons who have done what they really want to do.

Many other occurrences in everyday life may be regarded as indirect expressions of repressed trends, or desires, or as symbolical representations of mental conflict. Some of these are: mannerisms, slips of the tongue, forgetting important engagements, some forms of wit, dreams, and many nervous symptoms.

Sublimating Our Instincts

Repression and its various undesirable consequences are not, however, the only possible result of mental conflict. The conflict may be solved in such a way that both of the conflicting elements may attain a degree of satisfaction.

This form of resolution of the conflict is called sublimation. The conflict between the poetic and scientific ideas may be resolved by a modification of both views so that they may be included in a more comprehensive system of ideas called a philosophy. Conflict between

actual inferiority and the wish for power or superiority may be resolved by accepting one's limitations and making the best of the abilities one possesses. The general conflict with reality may be resolved by accepting it temporarily as it is, and then trying to make it conform to one's ideals. Similarly, authority may be accepted and at the same time questioned.

The sublimation of instinctive impulses may be illustrated by the case of pugnacity. If pugnacity is expressed in its original form, the person comes up against the law and may be arrested for assault or murder. If, on the other hand, pugnacity is completely repressed the person becomes a sissy or milk-sop and lacks an important incentive to achievement. If this instinct is sublimated, however, it is expressed in a modified form.

How Pugnacity May Be Sublimated

Pugnacity may frequently be sublimated into so-called scientific boxing, according to definitely formulated rules. To do a thing according to rules or regulations is always to some extent a sublimation. Pugnacity may also be sublimated into competition in school examinations. It may be expressed in writing polemical pamphlets or in a political campaign. A great deal of pugnacity is expressed in the oratorical contests of political opponents. In these various sublimations the subject lives out his pugnacity and at the same time conforms to the social order in which he lives.

Other primitive impulses may be sublimated in the same way, and this is the ideal resolution of mental conflict; because in this way a person avoids mental ill health and the formation of undesirable traits of character.

Psychoanalysis has rather definite implications for mental health. It tries to show that individuals will be happier and healthier mentally if they conform to certain simple principles and rules of life.

Three Simple Rules of Life

First of all, an individual should know himself as completely as possible. His unconscious ideas, feelings and impulses should be brought into consciousness. He thus attains greater unity of personality, greater control over the various aspects of himself, and, incidentally, since he finds much within himself that he criticizes in other people, he becomes more tolerant and sympathetic.

Secondly, knowing himself he should accept himself as he really is. If he finds he has certain defects or is mediocre in ability he should accept the fact and make the best of the abilities he possesses. He should not "kick against the pricks."

Thirdly, and finally, he should be himself; that is, he should give up sham and pretense. Professor James once said that many people in Boston would be happier if they gave up the pretense that they were fond of music. Many people everywhere would no doubt be happier and therefore healthier if they gave up some of their pretenses.

Psychoanalysis has given the Socratic dictum "know thyself" a broader meaning, and would add to it in the interests of mental health, "accept thyself" and "be thyself."

And Now Comes May

INSIDE a merry-month-of-May cover, HYGEIA has prepared an interesting table of contents for readers of next month's issue. Three of the titles will help to indicate some of the health lessons that will be told.

THE FATIGUE THAT COMES FROM IMPERFECT HEARING
By Dana W. Drury, M.D.

ARCHERY COMES BACK
By George H. Dacy

ALADDIN'S BOTTLE OF MILK, an account of a remarkable health project in a West Virginia mining county.
By Elizabeth Leitzbach

The health of the child will be especially featured in this issue, since May Day is officially known as Child Health Day.

Does Quackery Pay?

Life of a Charlatan Is Not So Sunny, Says Dr. George E. Keller

THERE are 974 doctors, firms, laboratories and individuals in the United States that are advertising, either in newspapers or direct to the public, everything from drops to excite the love-making mechanism, which hails from Hollywood, Calif., to the most wonderful cancer cure, which has its origin in Minneapolis, Minn.

I have come in personal contact with a few of these "doctors" and have been in correspondence with many of the rest of them and they differ little. To those demanding a down payment for their "cure" I sent it, but with a threat of prosecution for the use of the mails to defraud. In these cases the money came back by return mail, which alone is proof that they are operating a crooked game and are spending many sleepless nights over their business.

No Room to File Complaints

I asked those with whom I came in personal contact to show me some of the letters that come in containing adverse criticism of their business, but they told me that they did not have file room for such letters and so they destroyed them. However, they showed me letters requesting particulars and treatments and letters containing testimonials. Some of the testimonial letters had the addresses on them and some had only the state; many had no date to show when they were written.

My next step was to tell them that I was not a prospective patient but that I wanted to buy a mailing list of bona fide patients and wanted to know how I was to get some testimonials. They all seem to have two lists for sale; first, a list of bona fide patients, which one can buy for 10 cents a name; and, second, an inquiry list, which one can buy for from 3 to 5 cents a name, according to the age of the list.

As for testimonials, those that have full addresses are paid for at the rate of from $5 to $25 each and the person giving the testimonial is paid 25 cents for each letter he answers saying that the testimonial is correct and advising the inquirer to send money to the specialist immediately. Naturally, he advises the inquirer to seek the treatment, for then he is sure of his 25 cents.

I wrote to a doctor in Missouri who advertises a specialty for treating piles, asking him for the list of patients whom he has actually treated and what he wanted per name for them. He stated in reply that he has treated 12,000 patients in the last ten years. This made him about $120,000 gross receipts and, allowing for advertising, he made only about $5,000 a year net, which is about what the average physician makes in private practice.

An advertising "cancer specialist" in the Middle West told me that he has treated 25,000 patients in the last fifteen years and has collected about $250,000. This, when expenses were deducted, amounted to only $8,000 a year, about what the average surgeon makes.

Best Time to Get Testimonials

Of some with whom I came in contact I asked how they got their testimonials from the patients treated. I was told that the best time to get them was soon after the treatment was sent, while the spirit of anticipation was at its height. In this way they could get personal signatures, which are valuable in court in case of a showdown.

The one thing in all my investigation I was unable to get at was the specialist's waste basket, where were lodged the complaints and the adverse feeling toward this kind of practice. In

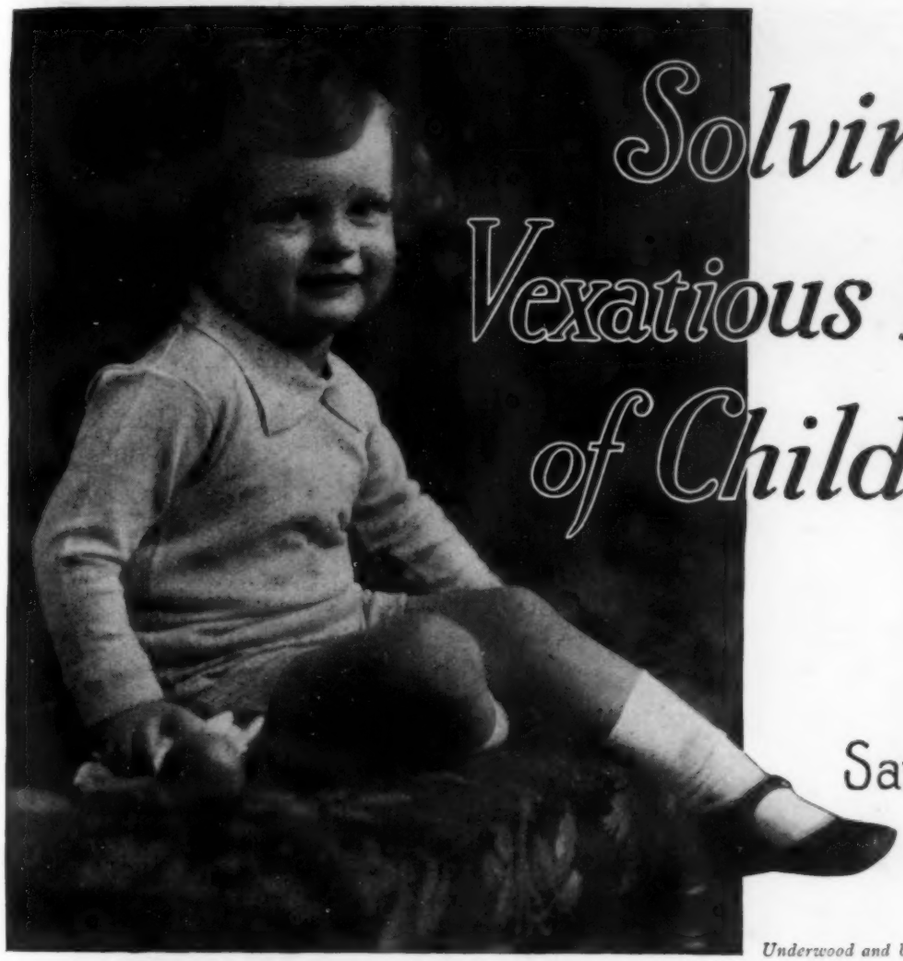
order to get information on this phase of the business, I prepared a chain letter card advertising a treatment for tuberculosis. I had 2,000 cards printed, and I mailed 250 to physicians, 250 to lawyers, 250 to dentists, 250 to business men, 250 to craftsmen, 250 to ministers, 250 to farmers, and 250 to women who were married. In fifteen days after mailing, I had 1,000 replies in my office. They contained the following inscriptions and messages on them:

Sorry.
Do you call that ethical?
Bah!
Better read HYGEIA.
You will have to quack louder than that to get my $1.
When were you born? This is 1928.
All people are not fools.
You should be ashamed in this enlightened day.
Don't exploit the sick.
Wonderful; where did you find it?
I'll bet you don't get your money back, for people are becoming educated now.
Most of our profession is honorable, so save your stamps.
I'll bet you don't belong to your medical society.
Hop to it, kid, there always have been fools.
I'll bet you got my name from Dr. Coffey.
You must feel fine taking the lid off one's coffin.
We have a sanatorium in our county that cares for our tuberculous.
You should have a hair taken from your head for every dollar you get out of the tuberculous who need it for good food.
Montana is a poor place to start a graft in; seems every quack in the country has my name.
I was fool enough to have a pair of glasses fitted by mail, but not this time.
I suppose you have found a new goat gland.
I have eight children and have lost over $100 on quacks, so swim on.
I should like to sue the man who is giving away my name to all you crooks.
If your treatment is so sure a shot, start a sanatorium and it will be filled.
I need my money to pay an honest doctor who drives through to my home in the storm to care for me.
People bit better for me when I had a city address in Chicago. I know your graft, so move to the city.
I should think it would make your blood curdle to take these dollars away from these creatures.
Dr. Williams when he sold you my name I had cancer and not tuberculosis.
I would be ashamed to send your card in a letter to a friend of mine.
Let the other fellow tell the merits of your treatment.
The home physician laughed at me.
If you have anything good, write it to our health officer and he will tell us about it at the Parent-Teacher meetings.
Better stop the publication of HYGEIA if you want to get anywhere with your graft.
We farmers may be dumb, but we have a radio and read a little nowadays.
A man is nothing but a buzzard who will graft dollars out of the tuberculous who are about dead; I stopped one dollar from going to you.
All quacks are the same.
I answer every medical advertisement I read and tell them they are real devils.
The common people read and know before they act; you are twenty years behind the time.

Many cards were returned blank or with lines drawn through them.

From the foregoing data one can easily see that the business of a quack is far from pleasant, for it is recorded daily that the business is not straight. Nevertheless, many fall for any graft that is put out, and even to the card I sent out forty physicians sent $1 (I am ashamed to record), seven lawyers, eleven craftsmen, sixty farmers and two ministers. No answer was received from dentists and business men; this can be accounted for by the fact that they are the most solicited of any of the classes and consign that kind of literature to the waste basket.

As long as the mails are open and free to everybody to use as long as they do not get caught, we must depend on the education of the public through such organs as HYGEIA, direct talks by local health officers, parent-teacher organizations, etc. We must let the public know the method used by these quacks, who take money from persons who cannot afford to lose it and give less than nothing in return.



Solving a Vexatious Problem of Childhood

By Samuel Z. Orgel

Underwood and Underwood

CHILD problems are many and varied, but there are few that tend to upset home and school as does that paramount problem of enuresis, commonly called bed-wetting. At the mention of this subject to one of the older generation one need not be surprised to receive the answer, "Oh, that is nothing to worry about; it will stop of its own accord. Why, Jack, Miriam and a dozen others have had it and outgrown it. Why even I wet my bed until I was 8 years old and then a good licking cured me. It's just plain laziness."

Harder on Child than on Parents

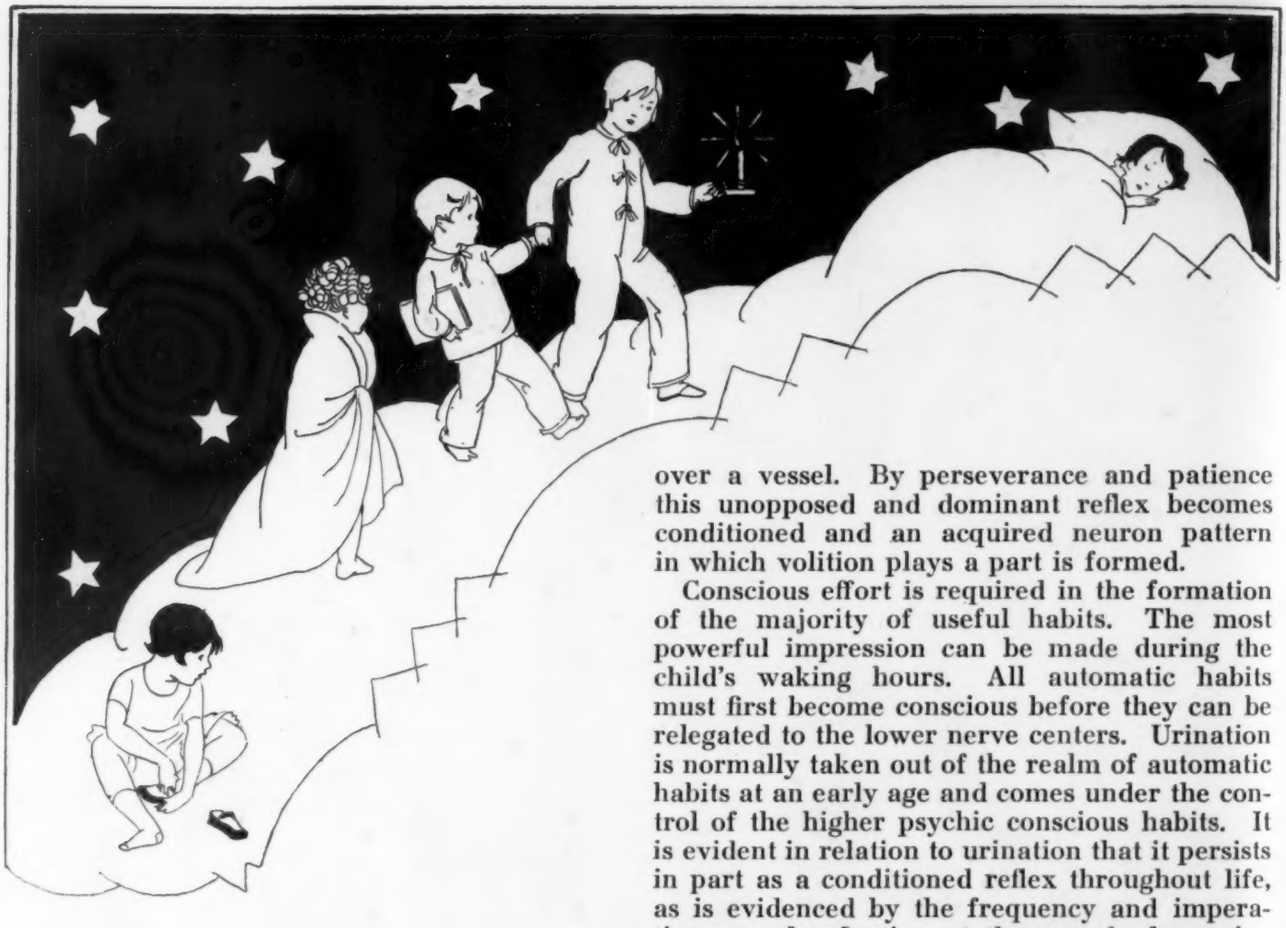
This problem not only causes added trouble and expense to adults in home and school, but causes suffering both immediate and remote to the child. Few other problems of child life have so lasting an effect on the child, and yet little thought has been given to its cure.

Only one type of enuresis, the functional variety in which no organic basis can be found to account for its presence, will be considered. This type is amenable to treatment and cure. Children suffering with the functional type of enuresis can be divided into three groups: the diurnal, or day-wetting, type; the nocturnal or bed-wetting, type; and the combined, diurnal and nocturnal, type.

Many factors play their part in making day-wetting a relatively rare occurrence. An impression made during the waking hours acts most powerfully and lastingly, so that any suggestion made will act strongest at this time. Day-wetting interferes with play life and calls down upon the child the scorn of his companions. Youthful companions readily recognize the symptoms from which the enuretic child suffers. The irritation of the ammonical urine and the urinous odor are readily recognized and evaluated, and they bring down upon the child the pity, disgust and scorn of his playmates. This fact acts as an added stimulus to dryness during the day.

Attempt to Regain Mother's Attention

The normal infant is the best example of the combined diurnal and nocturnal type of enuresis. Normally enuresis ceases somewhere between the eighteenth month and second year. Control of the nocturnal variety is always gained later, sometimes not before the third or fourth year. Most cases of combined diurnal and nocturnal enuresis persist from infancy with only a slight break. If habit control has



been established for a while and then there is a return to wetting, a definite reason can readily be found. It may be due to the advent of a new child into the family, the sickness of an older brother or sister, or entrance into kindergarten or school. Whatever the precipitating cause, the enuresis is an attempt to regain the attention of the mother which the child feels he is losing.

Nocturnal Type Is Most Persistent

The nocturnal variety is most common and persistent. In dealing with it, parents have to depend entirely on the carrying over of suggestion made during waking hours. It is rarely that the physician finds a child who admits he enjoys bed-wetting or one who will reveal its existence as a part of a pleasurable or a frightful dream. The habit may be due to a child's fear of the night, to a dislike of exposure to the cold, or to too deep a sleep. On rare occasions revenge or fear may act as a motivating factor. Whatever the cause, these children have a sense of shame and are sensitive to criticism. Nothing is to be accomplished by blaming or punishing them.

At birth urination is a reflex act. The unopposed impulse to urinate is dominant in the infant. Training or conditioning this reflex may begin right at birth by holding the infant over a vessel. By perseverance and patience this unopposed and dominant reflex becomes conditioned and an acquired neuron pattern in which volition plays a part is formed.

Conscious effort is required in the formation of the majority of useful habits. The most powerful impression can be made during the child's waking hours. All automatic habits must first become conscious before they can be relegated to the lower nerve centers. Urination is normally taken out of the realm of automatic habits at an early age and comes under the control of the higher psychic conscious habits. It is evident in relation to urination that it persists in part as a conditioned reflex throughout life, as is evidenced by the frequency and imperativeness of urination at the sound of running water, in fright, shock and especially during worry over examinations.

Conscious cerebral control is not gained by all children at the same rate of speed. One child may learn to walk at an earlier date than another, one talk sooner or gain control of the bowels and bladder at an earlier period. Infantile tendencies persist when there is delay in securing conscious cerebral control so that urination functions on the spinal level. If we remember that mentally defective children are lacking in their higher cerebral processes, it is readily understandable why enuresis is more frequent among mentally defective children than among normal children. However, the mere presence of enuresis itself should not be used as an index of weak mental powers. Enuresis is prevalent among intelligent children, especially the type commonly termed neurotic. A large proportion of enuretic children are either of the bright, impulsive, quick actioned type or the shy, sensitive capable type.

Forms of Appeal to Use

Conscious control over the bladder may be developed or strengthened in all children, regardless of the level of their mentality, by particular appeals. In endeavoring to obtain this end it is well to remember that children depend upon visual and aural perceptions for

most of their acquired habits involving motor activity.

In all forms of appeal the complete responsibility for the control of the habit should be placed on the child. Direct appeals to the pride of the child or promise of reward should be avoided under all circumstances. The procedure should consist of an initial suggestion, reinforced at least at weekly intervals, and these supplemented by daily autosuggestions based on the use of some simple device.

The first step is to get the child to admit his desire to overcome the habit and his willingness to cooperate in correcting it. His attempts at improvement must be placed in tangible form, so as to strengthen the possible autosuggestive factors. The same device does not serve equally well for all children, and for this reason too much reliance should not be placed on any one scheme. Some children may be stimulated to dryness by being granted the privilege of playing a game of chess each week with father or possibly by following dad around the golf course, caddying for him.

The initial stimulus should be strengthened by the autosuggestion brought about by having the child keep a record of his dryness or moisture. With girls the making of a string of beads with the privilege of adding some colored beads acts as an excellent means of motivation. In certain hospital dispensaries a simple device is used, that of placing on a chart a gold star for each dry day or night and a blue or red star for each wet day or night. The star is affixed by the child himself. These charts are kept at home by the children and are brought back to the dispensary each week so that progress may be noted.

Encouragement the Watchword

Encouragement of these children should be the watchword. Extra pleasures and privileges may be granted for marked effort and progress but these must be few and far between so that the child will not think he is receiving extra pleasures as a bribe for dryness rather than as a reward for what he has already accomplished.

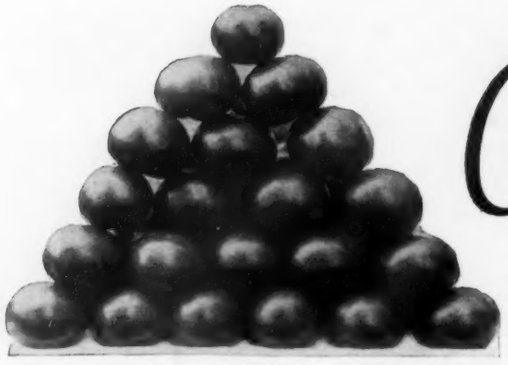
Deepness of sleep plays a great part in nocturnal enuresis, but such is not always the case as was evidenced by one child who came to me all smiles and confided the method that he was using to keep himself dry; namely, that of taking a cold shower followed by a brisk rub before retiring. He admitted that he slept soundly throughout the entire night and had for the last three weeks found his bed and himself dry in the morning.

Cold Shower Helped This Boy

The nightly cold shower followed by the brisk rub-down served a twofold purpose: first, acting as general tonic, stimulating his central nervous system and the superficial blood vessels of the skin, as well as removing any irritation that might be present; and, second, acting as the necessary daily autosuggestion administered at a time when it was bound to do the most good, just before retiring. The idea may be of value in other cases.

Other helpful phases of this subject are well known, such as having children wash their soiled clothes and bed linens.

My only hope in this article is to stimulate a more humane approach to this phase of child life. If I have succeeded in that, I feel that I shall have done a worth while service to these most miserable of all children.



Gardening—

Not Cannon Balls,

AFTER much discussion the weighty decision was finally made. It was agreed that we would go in for a bit of gardening and that we would make application to the Potomac Garden Club for two of their lots, each 50 by 150 feet. This land belongs to the government and will eventually be converted into a public park. The plan is projected several years in the future and meanwhile the ground is plowed and harrowed and divided off into plots, which are issued to applicants who agree to conform to certain rules of the club and who make a deposit of $5 for each lot, to cover the cost of plowing, harrowing and general supervision.

As we had little experience in the art of gardening there was a demand by various members of the family for an authoritative book on the subject. It was learned that the department of agriculture issues a most interesting and instructive set of bulletins on gardening, which can be had for the mere asking. Furthermore, many large companies, it was learned, supply excellent data on this subject and give the reader exhaustive information on the method of growing various vegetables, fruits and flowers. They also supply information regarding various diseases and insect pests that attack growing plants.

Most of our seeds were obtained from the local seed houses but some special varieties were ordered from out of town companies and some even from England, Germany and France.

It was remarkable what a keen zest was displayed in this new enterprise and the various pamphlets were eagerly scanned and discussed and ways and means devised for securing a bountiful harvest.

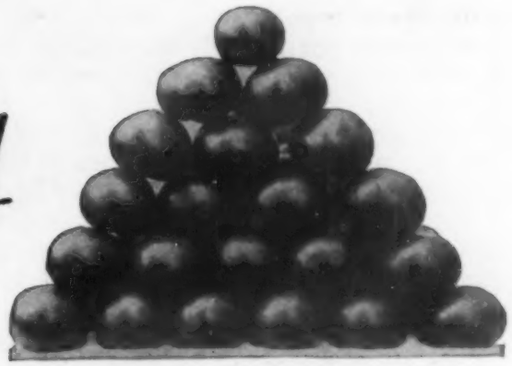
We learned that the department of agriculture will test the soil of various plots of ground and

Even the amateur in gardening may develop considerable skill, if she studies the government bulletins and the seed catalogs.

All photos by Ewing Galloway

A Good Hobby

By May Howard Bloedorn



but Dad's Tomatoes.

advise the gardener regarding the best type of crop to be secured from this ground as well as the various mineral constituents that the ground may lack and the best kind of fertilizer to secure. We did not realize before what a remarkable service the department of agriculture stands ready to offer to the citizens of the United States without cost to them.

Daddy specialized on tomatoes and soon the house, including the cellar and the available window ledges, were fairly well filled up with small boxes of seeds, which were to constitute the set-outs later in the spring. We secured a great variety of tomatoes including the Marglobe, Bonny Best, Ponderosa, Livingston Globe, Coopers Special, Sunrise, Golden Queen, Oxheart and Golden Ponderosa. This sounds like a formidable list and as the plants grew it became a formidable task to look out for each one. As spring advanced and it became time to transplant the tomatoes to the open lot, we carefully measured off the space allotted for the tomatoes, allowing ample room between plants and watering them about the roots as they were set out. While a few succumbed to this transplanting, the great majority grew and thrived and our spirits rose as we contemplated the neat rows of growing plants.

However, it was not long before we became aware of the fact that tomatoes are subject to a variety of dreadful diseases such as wilt, blight, rot, mold and leaf spots, to say nothing of the malicious flea beetle and the tomato worm. This necessitated a rush for bordeaux mixture, paris green, slug shot and various other applications, which were highly extolled and did seem to have a most helpful effect.

On one of our lots we decided to grow sweet corn. We planted two rows every ten days or two weeks, in order that we should have a succession of crops and not have them all mature at exactly the same time. The corn was planted in long straight rows and after being covered was packed down by treading lightly over the rows. To our consternation after visiting the garden two days later we found that the rats had carefully gone down each row, dug up the corn and destroyed practically every kernel. Our plot was located near the water front on an inlet of the Potomac River and the rats appeared to have settled down in the immediate neighborhood of the stream.

A second planting was made and in some instances a third planting. We found that if we did not mark out each row by treading on the ground the rats did not appear to be able to locate the corn with ease, and many of the rows escaped practically intact.

We planted several varieties of sweet corn, particularly Golden Bantam, Stovell's Evergreen and Black Mexican. Later, as the corn sprouted and the shoots came up through the ground, we found many of them pulled out or broken off

and upon investigation discovered that the crows were particularly keen about this dainty morsel and would frequently walk down the row of corn, picking out each tender shoot and practically destroying the plant. This required another planting and we set up in the vicinity of our lot a scarecrow with flopping arms and a most rakish appearance, due to an old felt hat. When the breeze was blowing the crows were reluctant to come anywhere near this disturbing creature. An effort was also made to discourage the rats by setting traps and placing poison in their path. While these measures did seem to curtail their efforts somewhat it did not discourage them entirely and we had to be constantly on the alert against their depredations.

We also planted several rows of turnips, carrots, radishes, spinach and kale and were rewarded by an excellent crop. Some cabbage and eggplants that were set out brought a good yield. Beans were planted, particularly the large stringless bean and a few bush lima beans, and these did well.

The tomatoes grew rapidly and we decided to stake them up, prune the lower branches and train them to two stalks. After this treatment the plants grew to a height of 4 or 5 feet and we were rewarded by a very early and bountiful yield.

The children take pride in their gardens. Freddie is shown here planting potatoes.

Several rows of potatoes were planted; these came up in due form and were attacked in prompt order by a host of potato bugs which seemed to be lying in wait for the particular event. They would climb up to the topmost leaf and rapidly devour it, at the same time calling up their cohorts from below until in some instances nothing was left but the stems of the potato plant. This called for a concerted attack, and by means of a spray of bordeaux mixture and paris green applied generously over the leaves we were able to defeat the invaders with heavy loss. It was found necessary to repeat this spraying process about every ten days, as the potato bugs would return if constant efforts were not made to destroy them.

Border of Flowers

Around the borders of our garden we planted English wild flowers and the blue cornflower as well as dahlias and zinnias. These added materially to the appearance of the garden in late summer.

In addition to the produce that we secured for the table, the efforts at gardening had a most beneficent effect on the entire family.

Mother grew thinner and remarked that she never felt better in her life. Little Helen developed a coat of tan and a most remarkable appetite after a few hours spent in pulling weeds or applying the spray to the vegetables.

Later in the season as the crop began to mature we secured some 4 quart baskets from the local seed man and derived great pleasure in distributing our excess produce to friends, who seemed to appreciate a basket of vegetables fresh from the garden.

During September we exhibited some of our produce at one of the local shows and were rewarded with a prize on our tomatoes and with honorable mention on our English broccoli. This in itself seemed an adequate reward for several weeks of effort and gave us added encouragement to try for an even better crop the coming year.

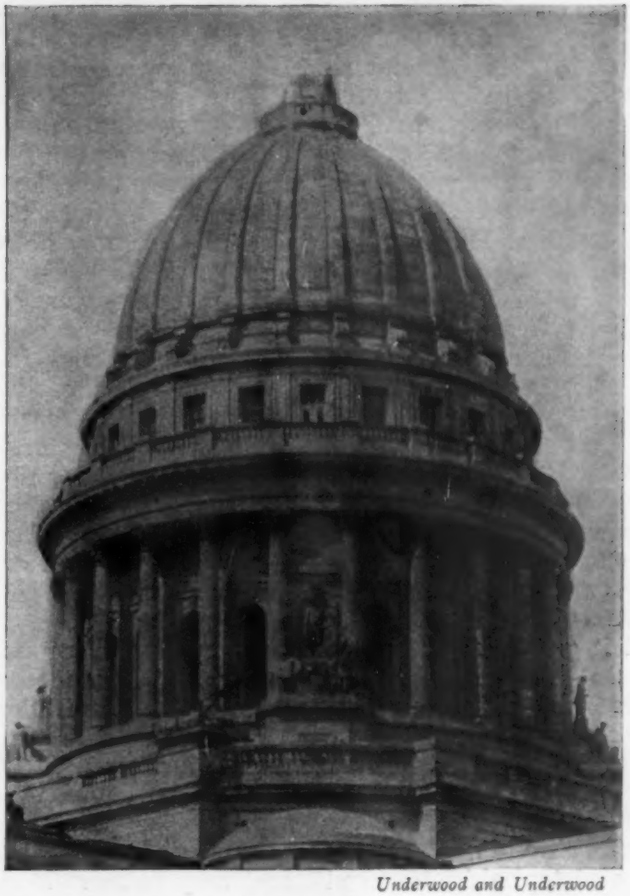
As a hobby I do not think one can develop a more enjoyable one or one that gives such returns in enthusiasm, health and renewed vitality as result from struggling with a garden plot against odds that at times seem overwhelming. Every seed put into the ground apparently has a host of natural enemies and requires tender care and much encouragement in order to mature and produce a crop. One may well take pride in the harvest.

Helps Overcome Food Prejudices

Children take a particular pride in growing plants and it is a helpful form of recreation and diversion as well as a means of supplying delicious foods for the table. The matter of securing a well balanced ration for the growing child is not always easy, as the child is inclined to pick and choose articles of food without regard to the actual needs of the body. It is not difficult to get the child to eat string beans, tomatoes, turnips, carrots, sweet corn and a host of other things if he has carefully tended these vegetables, watched them mature, and finally harvested the crop. The children had great fun with the pumpkins planted among the corn. They yielded luscious pies and jack-o-lanterns.

Gardening requires no great outlay, no expensive equipment and even the amateur, if he will carefully study the available literature that may be secured for the asking, may develop considerable skill in this enjoyable diversion.

An APPEAL to ALL CITIZENS



Underwood and Underwood

To Prevent Further Weakening of HEALTH LAWS and Hampering of RESEARCH

By E. P. Lyon

AMONG the bills before committees of the Minnesota legislature was one forbidding compulsory vaccination under any circumstances; another was to do away with any form of animal experimentation; another provided for the licensing of naturopaths to practice.

A large number of misinformed citizens appeared and set forth their views. In each case the proponents of these measures attacked the medical profession. The doctors were accused of promoting publicity of the smallpox epidemic for the sake of money derived from vaccinations; of favoring animal experimentation because of wicked curiosity and innate cruelty; of opposing the licensing of untrained healers because of jealousy.

These are, of course, the stock arguments of all the neurotic and biased minds that are arrayed against modern medical science. In addition are those with a financial motive—paid secretaries of antivivisection societies, people who desire to practice the healing art without proper education, and the like.

Extracts from the Usual Speech

At a certain point in the speeches of all these persons they may be relied on to say: "What we want is sanitation! That is the way to prevent disease. Vaccination does not prevent smallpox. All your serums, antitoxins and vaccines are just devices of the doctors to get money. Look at typhoid fever! The doctors cannot cure it. It is pure water and pure milk that prevent it. Look at yellow fever! How did they dig the Panama Canal? By cleaning up the canal zone; by sanitation. Drugs are no good. Vivisection never revealed any valuable facts.

"What do the doctors know about cancer? They cannot cure it. In spite of all the thousands" (more likely they say millions) "of animals that they have ruthlessly slaughtered, they know absolutely nothing about it. The only way to prevent cancer is sanitation and hygiene!" (Here they become indefinite and run off into special hobbies—vegetarianism, baths of various kinds, wool next to the skin, avoid milk, take fresh air, "I always eat a raw carrot every morning and I have never had cancer," and so forth *ad infinitum.)*

Sanitation Not an Independent Science

Is sanitation something apart from medical science? It is true that cleanliness is next to godliness. But what is cleanliness? Surely cleanliness from a disease prevention standpoint is not to be interpreted in terms of soap and water.

I look in the dictionary and find sanitation defined as "the science of disease prevention." I ask how can we prevent disease unless we know about disease itself? I conclude that sanitation is not an independent science. It is rather a part of medical science. It is an application of the knowledge gained by the study of disease

in all the ways that disease can be studied: at the bedside, in the laboratory, by means of animal and bacteriologic and chemical experiments, by statistics, by the study of the spread of epidemics, by the geography of disease, by the observation of all the environmental factors and so on. Those who so vehemently advocate sanitation are advocating medical science. Those who so ardently damn the laboratory and the research worker are damning the source of what they most strongly preach. They are demanding to be fed of the fruits of medical science and at the same time demanding that the roots of medical science be dried up and the stem cut off.

Finding the Cause of Typhoid

A short quarter century ago Chicago, St. Louis, Minneapolis and many other cities were full of typhoid. It had always been so in cities. It was expected and tolerated. No one spoke of cleaning up. The people drank their lake or river water and thought it good. They buried their friends and neighbors—thousands of them—and accepted their sorrow and loss as something that could not be helped.

Did anybody think out the cause of typhoid? No. Did any one find the cause by sanitation? No. Sanitation against typhoid did not exist.

It was a bacteriologist working in a laboratory who discovered the cause of typhoid. He used a microscope, test tubes, culture mediums and the patients sick with this disease in a hospital. He used animals to test out his results.

The bacteriologists and others working with them found that the "bugs" of typhoid are given off in the excreta of the patient; that they find their way into water supplies; that they may be carried by flies, taken up by oysters, thrive in milk and may be borne from one person to another by careless attendants. When these and other facts were established—and they were established by exactly the means previously detailed: the bedside study, the laboratory investigation, the vivisection experiment, the environmental research—then sanitation against typhoid was possible.

Then, too, it became apparent that clear water is not necessarily clean water; that water may be ever so sparkling, ever so clear, ever so good to the taste, but the invisible bacteria may be there. Scientists found ways to kill the germs in water with chlorine; in milk, by heat. They kept oysters from being fattened in polluted water, and they taught us to swat the fly. We call all this "sanitation against typhoid."

Behind the Clean-Up Measures in Panama

And the Panama Canal? Yes, it is true that sanitation dug the canal. "Cleaning up" dug the canal. But the French are not a dirty people and they failed. It must be that "dirty" and

Wide World

When deluded and fanatical opponents of health and progress appear before state legislatures, who are there to oppose?

"clean" are not words of constant meaning. Who caused these words to take a new meaning for yellow fever and where did these men work? Why, it was the "detestable" doctor, the "cruel" laboratory man and the "impractical" scientist.

They found it is a certain kind of mosquito that places the invisible virus of yellow fever in the human blood. To prove this, since there are no animals susceptible to this particular disease, several of these heroic men permitted themselves to be bitten by mosquitoes that had come from fever victims; and some of these men died; died in order, it would seem, that deluded and bigoted people might raise a hymn of praise to sanitation and emit cries of execration against that very medical science for which those men died and which made sanitation possible; for the sanitation against yellow fever was now as plain as day; drain the breeding places of mosquitoes, put oil on the water, screen the windows —and dig the canal.

Old-Time Surgeon Not Dirty

The old-time surgeon was not a dirty man. Indeed, according to accounts, many of them were most fastidious. They operated in dress suits, and their instruments were bright and shining. They spoke of laudable pus, and their hospitals were full of the horrible stench from rotting wounds. They were accustomed to a tremendous mortality. They sacrificed arms and legs ruthlessly for fear of gangrene. They almost never opened the abdomen, for they knew it meant death to the patient.

If some one had called such a surgeon dirty, that particular some one would have been laughed at or kicked out.

Then along came Pasteur and Lister and a lot of others and showed that clean is not clean; that ordinary clean is different from surgically clean. Quite a lot of dogs, rabbits and guinea-pigs, undoubtedly, were sacrificed before all the facts came to light; and now we have what we might call the sanitation of surgery, but which we usually call asepsis.

The patient and everything that comes in contact with or even near the patient are made surgically clean; that is, free from bacteria. The bacteriologist knows there are bacteria in ordinary clothing; so the surgeon works in a sterile gown, which may not be so picturesque as a dress suit but is decidedly safer for the patient. It was found that no amount of scrubbing or antiseptic solutions will kill all the germs in the skin, so the surgeon wears rubber gloves that can be absolutely freed from dangerous micro-organisms. His instruments may or may not shine, but they have been heated so that no germs could live upon them.

Aseptic surgery is received into the best society. The disciples of medical freedom take it into their homes, on occasion. Aseptic surgery is respectable. But, alas! for its grandparent and its uncles and cousins and other relatives in the family of medical science! Well, such cases have been known in human society. Inconsistency is a jewel, and some people sparkle with it from head to toe.

Why Our Health Laws Are Weak

At the legislative hearings appeared several hundred deluded and fanatical opponents of health and progress. It is due to such people that our health laws are weak and are weakly enforced.

When these persons appear before state legislatures to propose further weakening of health laws and further hampering of research, who are there to oppose? Some physicians and a sprinkling of laboratory scientists. Few doctors will go to hear themselves vilified and their motives impugned. Few citizens take interest enough to help safeguard for themselves and their families the blessings that science has been able to unfold and that the future may have still to be revealed.

This article is an appeal to citizens to inform themselves as to what medical science really is; to recognize that it is one science and that sanitation is only a part of it—in fact a resultant method rather than a fundamental principle. It is an appeal to citizens to realize that the campaign against medical science is dangerous to society. It is an appeal to citizens to enter the ranks stoutly to fight for freedom of research and for the free application of known facts of science for the protection of society and the elimination of disease.

Preschool

COLORED

By Pearl Virginia Crossley

"WELL, Miss, I's done got four o' my chillun here."

"What's his name? Which one?"

"Yas'm, this'n is Gawge—Gawge McCreary."

"When he bornded? Lemme see. Does you has to know pintedly, when dey's all bornded?"

"Well'm, this clinickin' shore is monst'rous 'xactin' business! I knows might' nigh de night Gawge was bornded 'cause dat's de time our bretchy cow got in Mam Lou's roas'n year patch an' cut sech capers—he! he!—um—yas'm—skuse me, too, 'cause I shore am in a hurry, too. I done set back Miss Sally's two week wash to come down here and git these younguns clinicked up—"

"Yas'm, Gawge was bornded in de spring o' de year, 'bout seben years ago, come next spring. You see, he come sorta onexpected-like. Better jes' put him down a little under seben, or them patternizin' doctahs might turn me down."

"Yas'm, Gawge is plum healthy, 'ceptin' he's got de eetch. But I cal'clates chillun's got to have eetch, same's dawgs has fleas. Only dey says Gawge has some kinda furren bran'—Cubyan eetch, it eetches like. Skuse me! I jes' thought I'd tell you so's you could tell the doctahs."

"Whar I lives at? Well'm, right now I lives on Speed Street in de back, but I's aimin' to move, 'cause I ain't jes' 'greeable to some o' my neighbors."

"Nationality? Don't quite git you—"

"O, yas'm, all my husbands was cullud men."

"Nome, Gawge wasn't registered twell you ast his birfday."

"His father's name was Mr. Whittier, but all of us, 'ceptin' Paulina, goes by the name o' McCreary. I jes' puts my las' husband's name to the others whenever I gits married.

"My name? Miss Jane Whittier-Booker-Douglas-McCreary."

"Occupation? You means what I wuks at?"

"Yes'm, 'fore my fust marriage, I was chambah-maidin', but now I washes, and sometimes I does hair. I's guaranteed to take the kinks out and—Ma'am?"

"My husband's occupation? Meanin' his job? Meanin' which husband?"

"O, Gawge's father? Mr. McCreary is my las' husband, and he cullud bobbers."

"Bottle-fed? Who, Mr. McCreary?"

"O, mussy, nome, I nussed all my chillun."

"Now you ast me what he weigh! I ain't got nuthin' but han's scales, an' got somethin' the matter wif de springs. Well, Lady, dat's de onliest way I got o' tellin' but I reckon he weigh 'bout 9 pounds more or less when he fust come."

"To tell de Lord's truf, I dunno when I weaned dat chile. Well, now, Lady, ef you air a mother, you knows a chile has to be weaned—dey jes' has to be weaned—it ain't good fer 'em to nuss—"

(Continued on page 202)

Clinickin'

WHITE

By Edith Lochridge Reid

THE parents' educational bureau of the Oregon Congress of Parents and Teachers is doing a notable work in training parents in health methods. Every Tuesday and Friday from noon until 2 o'clock a health clinic is held in a suite of rooms provided for the purpose by the associated health interests of Portland. Almost hilariously the little tots scamper about the rooms, clad in their "angel robes," awaiting the nurse or dentist or physician who is to examine them. Babies held on the laps of attendants or in their mothers' arms gurgle and coo and gaze at each other in wonder as to what it is all about.

A score or more Portland specialists take turns in volunteering their services, so that the children are assured of expert diagnosis. The clinic is primarily diagnostic. If the regular care of a physician seems necessary, the parents are advised, and a complete record of the case is sent to the physician who will have charge.

Junior League Girls Help

Members of the Junior League are present on clinic day to help the mothers, for some bring several children at one time.

The parents' educational bureau, cooperating with schools and health agencies, is trying to bridge the gap that has existed between birth of the child and the time when the public schools begin to examine and record his development. Health records made at the preschool clinic are kept up to date and are ready to turn over to the school on the day the child enters.

Mothers are given explicit instruction on diet and health habits, and children entering school now are on the whole in much better condition mentally and physically than were children before the clinic began to operate. Mental training is stressed along with the physical. What to do with the angry child, how to amuse the nervous child and many other problems that mothers meet in their daily responsibilities are discussed.

Only Fifteen Examined Each Session

The number of children examined at each session is limited to fifteen, in order that complete justice can be done in each case without rushing or tiring either patients or those in charge. Each month the number enrolled fills the quota. A registration fee of 25 cents is requested of parents, but this is the only expense attached. Other expenses attendant on maintaining the clinic are covered by the aid from the community chest and donations of those interested.

Parents are advised to bring the children to the clinic four times a year for follow-up examinations given by specialists in eye, ear, nose and throat diseases. Teeth that need attention are closely watched and treatment administered.

It is explained to mothers that the health chart of the child demands constant interest

Scene at the Portland health clinic, conducted by the Oregon Congress of Parents and Teachers.

along with the report card, because the two are correlated. A red mark on a report card more often than not may result from a red mark on the health chart that has been disregarded.

Preschool Clinickin'—Colored

(Concluded from page 200)

"I ain't drivin' at nuthin' 'ceptin' you asts sech dilicate questions, I gits plum flurried. Anyway, I weans my babies all 'fore de nex' one comes 'long."

"Whar we sleeps? Well, endurin' de summer heat, we sleeps most anywheres, so we keeps cool, but we shore does huddles in de winter when it gits cold."

"Nome, Gawge don't slep 'lone. Dey all sleeps together."

"Nome, don't none o' my fam'ly sleeps out doo's. We all sleeps inside wiff doo's and winders boff bolted 'ginst bu'glars."

"Baff? Law, Honey, my fam'ly ain't lackin' fer no baff, cause I allus got a tub o' suds."

"Toof-bresh? Well, now does you jes' has to ast all dem questions 'bout my pore little chillun?"

"Well'm, I disremember whether we has a toof-bresh 'round anywheres, but ef its a needin' thing, I kin git one."

"Nome, I don't give Gawge none o' dem cooked cereal foods but I feeds him plentiful of mush and milk."

"Did you say how much milk he takes?"

"'Bout half full."

"Come here, Paulina, an' git writ up."

"Why, I calls her by my secon' husband's name 'cause he was kinda light-cullud like her, and she was bornded endurin' our nuptials."

"Paulina is goin on 5 and she was bornded and registered at de Weepin' Willers Horsepittle in de cullud ward. Some young white doctah what took keer o' us said he'd git 'rested ef he didn't git her registered. I didn't never saw him 'fore or sence, and I has nevah made out what my baby had to do wiff gittin' no white doctah 'rested."

"Jes' put all o' Paulina's down like all the rest 'cause all of 'em slept and bathed and et the same way."

"This is Ward Douglas McCreary. I puts Douglas in his name 'cause he always puts me in mind o' my third husband."

"Come here, Honey Pie. Writin' ain't goin' hurt you."

"Nome, I jes' pet-names her that. Her name is Symphony. Some white folks give her the name of Symphony 'cause she was so full o' music. She cried a heap when she was little. She is scared now 'cause she thinks you is goin' to put her in a baptismus pool."

"Yas'm, yas'm, thank you Ma'am, I shore am glad to git all my papers, 'cause now them club folks cain't say I'm ketchin' or somethin' when I got my papers on all my chilluns."

"Yas'm, it's shore a lot o' work fixin' 'em. Lordee—clinickin' babies is wuss'n havin' 'em. Thank you, Ma-am. Goodbye."

BE CAREFUL WITH *Ultraviolet*

By JOHN S. COULTER

CAN we have too much sunlight? On the dark days of winter and early spring this sounds like a foolish question, but if in an early summer search for a coat of tan we lie for an hour or more in our bathing suits, this question will probably be answered with a strong yes. Often it happens that with this much sunlight we are blistered so severely that we are not only uncomfortable but feel sick as well.

One of the recent triumphs of scientific investigation in medicine is the establishment of the value of ultraviolet rays in the treatment of disease. There is nothing new in the use of the sun in the treatment of disease, as Antyllus, an early Roman doctor, used massage in the sun for rickets and for muscular atrophy, emphasizing the value of pigmentation. But recent research has shown that ultraviolet rays have definite value in a small number of diseases, such as rickets, some forms of tuberculosis, and in certain skin conditions. Cures that have been made in these diseases have caused some manufacturers of lamps for ultraviolet rays to start a vast propaganda on their virtues. Daily newspaper health columns and even news stories are telling of the use of these rays in many diseases and conditions. Much that is old is being told as new, and much that is speculation is being related as truth.

Ultraviolet Lamps in the Home

"Shall I purchase an ultraviolet lamp to use on my children?" is a frequent question asked by mothers. Many people have purchased or rented these lights for use in their homes on the advice of their physician. They may believe that if it does good in the condition for which it was ordered, it will do good in another, or at least it will do no harm.

The indiscriminate use of ultraviolet lamps is a danger that the public should know. The policy of manufacturers who sell ultraviolet generators directly to the public without medical supervision should be condemned in no uncertain terms, for such policy in utter disregard of the public welfare is criminal. There are definite dangers from the use of the ultraviolet lamps.

Mechanical Dangers

Among mechanical dangers is the risk of electric shock, especially if the lamps are installed in a bathroom, as is often done in the home. This has happened frequently enough to be mentioned in a discussion on the subject by the Royal Society of Medicine of England.

Breakage of the quartz burner may occur. The instructions given with these lamps usually advise that the patient be placed directly under the burner. Consequently if the burner breaks the extremely hot glass and mercury may fall on the patient, causing severe burns of face and body.

In the case of the open carbon arc lamp the sparks from the electrodes may burn the patient or may possibly cause fire.

Skin Injuries Caused by Overexposure

Many persons using these lamps in their homes are giving themselves treatment by placing the lamp at a certain distance from their couch and then lying down without covering under the open lamp. They time themselves by a clock, but it has happened fairly frequently that the patient has gone to sleep under the light for as long as an hour or more. This has caused a blistering sunburn that has made them uncomfortable and sometimes has produced serious general symptoms from an inflammation of the kidneys.

Hives may be caused by the action of the light and while not serious it is most uncomfortable.

Two rare skin diseases develop in persons with skins that are susceptible to the actinic rays of light; these disorders are frequently followed by cancer.

In the Finsen Light Institute in Denmark, where artificial light was first used for the treatment of disease, it was found that nurses working with their sleeves rolled up and their arms thus exposed to the artificial light developed an excessive growth of hair on the arms. This skin condition when once established is usually permanent. It is frequently seen on the body in patients exposed to long courses of light treatments. It is not serious, but in girls may be disfiguring if it is on the arms or on parts of the body exposed by modern dress.

Ultraviolet Rays May Harm Children

Dr. John Lovett Morse, a specialist in the diseases of children, at a recent meeting of the Massachusetts Medical Society said: "It is apparently taken for granted that it is impossible to do any harm with artificial ultraviolet radiation. . . . There is ample experimental evidence to show that prolonged irradiation of cholesterol and cod liver oil and foods that have acquired antirachitic powers as the result of irradiation diminishes and finally destroys these antirachitic powers. Furthermore, when cholesterol has been inactivated by artificial irradiation, it cannot be reactivated. It is evident, therefore, that too prolonged irradiation of babies may, instead of activating the cholesterol in the skin, not only inactivate it but prevent it from being activated by sunlight.

"An excess of light—that is, of ultraviolet rays —may cause in plants a too early differentiation of tissues and result in dwarfing. It is possible that exposures of babies to an unusual amount of ultraviolet irradiation over a long period of time may cause an excessive deposition of calcium in the bones and interfere with or prevent normal growth of the bones in length."

Surely this should sound a warning to those mothers who expose their children too long or too frequently to these rays, for it must be remembered that children react more easily to light than adults. An adult can describe his feelings and symptoms while a child cannot. So in children only signs indicate overdosage. Some of the most important of these are digestive disturbances, loss of appetite, loss of weight or failure to gain weight, disturbed sleep and increased irritability.

One of the most harmful things about the use of ultraviolet lamps in the home without medical supervision is that the family allows it to take the place of other treatment. It is unquestionably useful in the treatment of rickets in children, and they improve under it, but it may be a great danger by delaying proper treatment if used for other conditions. Dr. Morse says: "There being no scientific evidence to show that ultraviolet irradiation does good in either preventing or curing general disturbances of nutrition, it seems to me that it is unjustifiable either to recommend or use it for these conditions."

Besides the dangers of burns and skin conditions in adults, an overdose of these rays may cause a serious illness in those with previous heart or kidney disorder. Furthermore, although light treatment has been proved an aid in some forms of tuberculosis, it is not a specific remedy, and primarily one must rely upon diet, rest and hygienic treatment. In pulmonary tuberculosis it is easy to start a smoldering disease to a flaming fire with a small overdose of ultraviolet.

No Fixed Rules for Dosage

Dr. Mayer of Saranac Lake, N. Y., has written a book of more than 400 pages on one phase of this subject, the application of sunlight and artificial light in the treatment of tuberculosis, and he with many years of experience says that it is impossible to offer any fixed rules for dosage of light and methods of exposure in any form, stage or activity of tuberculosis. Each case, he says, must be studied individually by a physician.

The public is not aware of the dangers attending the use of ultraviolet generators. There are a few proved uses of these lamps and in these cases under medical supervision the rays have great value, but because of this there has developed a fad for their use that threatens to do more harm than good. It should be a rule never to use them except on the advice of and under the direction of a physician.

Photos by H. Armstrong Roberts

Dramatic Figures in Early History of Vaccination

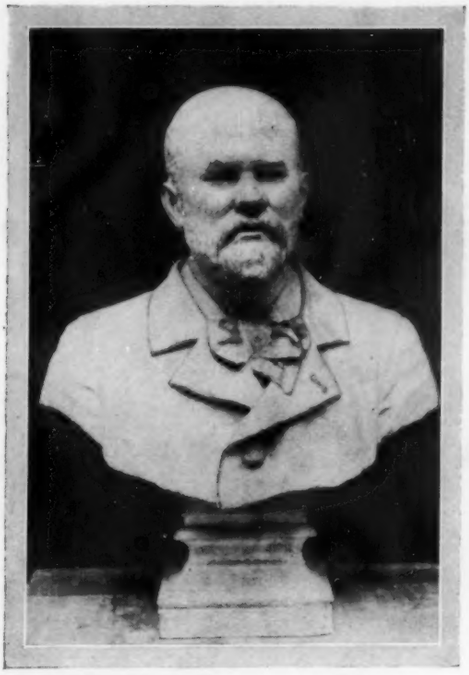
Lady Montague, who introduced the practice of inoculation into England.

Dr. Woodville, who brought the first tube of Jenner's vaccine into France.

JENNER, who delivered humanity from the scourge of smallpox, was an English physician born in 1749. He was devoted to the practice of medicine and also occupied himself with ornithology. Endowed with highly developed powers of observation, he proved that those of his patients who had contracted cowpox became immune to the dread disease of smallpox, which for many centuries had caused deadly epidemics in all the known world.

On May 14, 1796, Jenner experimented on a young girl having cowpox. He opened the pus-

Vaccination scene in the time of Jenner, an engraving by Boily.



Bust of M. Chambon, founder of the Institute of Animal Vaccine, Paris, and creator of the first animal vaccine service in Paris.

Text and Photos by

William Thompson

tules and took several drops of the pus with which he inoculated a child of 10 years, hoping by so doing to prevent the child thereafter from contracting smallpox. This was an innovation in the practice of medicine at that time. The method of immunization employed by him spread rapidly in his country despite inevitable opposition. Shortly after, an institute for vaccination was founded in London, open to all who desired to make themselves immune, free of charge.

France was not long in recognizing the benefits from this discovery. An exile, Duc de la Rochefoucauld-Liancourt, returned to France after the establishment of the French republic in 1799, promising to reveal the benefits of Jenner's method to his country. He won to his cause the dean of the faculty of medicine of Paris, and they appointed a committee for propaganda. The first Frenchman was vaccinated at Boulogne-sur-mer by an English physician Woodville, who had brought vaccine from London. The same physician vaccinated the children of Boulogne and afterward went to Paris. Contrary to tradition, a veritable infatuation or vogue for vaccination began, which, however, proved to be justifiable. Physicians in hospitals of many towns of France followed the example of Paris, where a special hospital had been created for inoculation with vaccine. The clergy with all their authority aided in spreading the propaganda.

Before Jenner's death in 1823, he was honored by a national award of $100,000, and this great emancipator had the satisfaction of seeing his discovery enjoy the esteem of the medical profession of all countries.

"The Voyage of Vaccine," a caricature in the collection of the Institute of Animal Vaccine, Paris.

CONGENITAL
Dislocation of the Hip

By John L. Porter

CONGENITAL dislocation of the hip is a deformity that occurs more frequently than is commonly supposed. Although it is present at birth, the two hips look alike on casual inspection and the legs seem to be of the same length, so the trouble is not usually discovered until the child begins to walk. Then a slight limp is noticed, which grows worse as the child becomes more active. With increase in weight the deformity becomes more pronounced and the gait more awkward. There is no complaint of pain or disability until about the twelfth year, but from that time on both the discomfort and disability increase, the limp becomes more pronounced, and when adult life is reached, the patient may become seriously handicapped as well as very uncomfortable.

The foregoing description applies to single dislocations. When both hips are dislocated—which occurs in about one fourth of the cases—the child begins to walk much later, the gait is a waddle, the hollow in the small of the back is markedly increased, and the disability and discomfort are more severe and develop earlier.

Deformity More Common in Girls

As about 85 per cent of these cases occur in girls, the deformity has an important bearing on pregnancy and childbirth. The displacement of the point of weight-bearing in one or both hips causes some distortion in the development of the pelvic bones, and this may interfere with or even prevent normal delivery. Occurrence of the deformity in two or three succeeding generations has convinced physicians that there is a certain degree of hereditary tendency.

The cause or causes of congenital dislocation of the hip are not definitely known. The cause may not be the same in all cases. The theory that best explains the mechanical factors at work to cause the displacement is as follows:

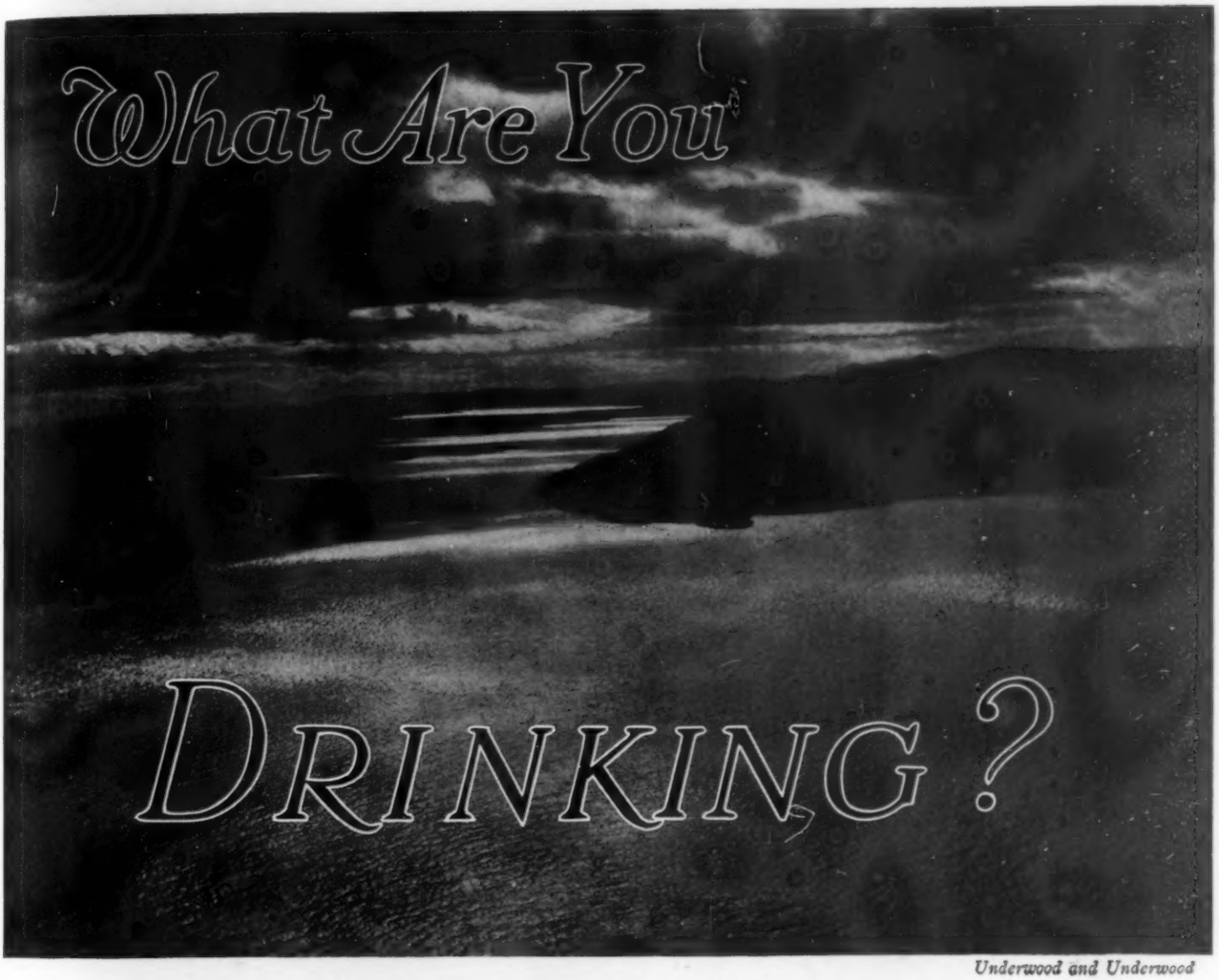
The child in the uterus lies with the thighs fully flexed against the abdomen. This is the position in which the head of the femur can most easily be dislocated. Contractions of the muscles of the uterus during labor, especially if they are strong and spasmodic or unequal, may cause pressure on the lower end of the flexed femur (the knee), thus pushing the head out of the socket, or acetabulum, over the very shallow lower rim. During the delivery of the legs they become straightened out but the dislocated head of the thigh bone, instead of returning into the socket, passes below and behind the outer (higher) rim of the socket.

This is unnoticed at the time because the legs are apparently and practically the same length. But as the thigh muscles develop and gradually contract, the head of the femur is slowly drawn upward, the capsule of the joint slowly stretches, and when the child begins to stand, the head is behind and above the socket and the child's weight soon pushes it higher under the muscles. Then, when the child begins to walk, it limps and one leg (if only one is dislocated) seems to be shorter. If both are displaced, the legs are of the same length but the hips seem much wider and more prominent, the hollow in the back is increased, and the child walks with a peculiar swaying or waddling gait. Careful examination of the child when it begins to walk reveals one or both of the heads of the thigh bones out of the socket and the x-ray film quickly shows their exact location.

Method of Treatment

The accepted method of treatment today is to replace the dislocated head of the bone in the socket by manipulation, carrying the head back into place by the same route through which it was displaced. That is sometimes impossible. The child may be too old and the shortened muscles too strong, or the socket may have filled up or be too shallow.

Many factors may develop to prevent correction. As a rule, the younger the child the more easily the hip can be replaced. It is difficult after the third or fourth year, and after the sixth year it is practically impossible without great danger of injury to the head of the femur. Then the safest method is by open operation in the hands of a skilled surgeon.



Underwood and Underwood

The conservation of water supplies is just as important as that of forests.

What Are You Drinking?

By Earle Duffy

NERO occupies a unique niche in history. Given wide publicity in school books, he is generally known as the fellow who fiddled while Rome burned. Nero, be it remembered, had a temperament that on more than one occasion did not increase his popularity with his subjects. Not the least of his royal machinations was when he bathed in the fountain head of the Marchian water, called by Pliny "the most celebrated water in the world." Perhaps it was his devilish nature or perhaps mere impulse that prompted the Emperor to jump into the cooling waters on that hot summer's day. At any rate, Rome had to drink that water and Nero had defiled it. Tacitus, who lived about that time, was applauded by many good Romans when he wrote these words:

"He (Nero) was considered to have polluted the sacred water, and to have profaned the sanctity of the place by washing his person there; and a dangerous fit of illness which followed left no doubt of the gods' displeasure."

So, it seems that 2,000 or more years ago the problem of pollution of water supplies was present, but not in the degree that it exists today. Nero was adversely criticized for bathing in public waters as much from a religious standpoint as from the hygienic. With the ancient men of science unequipped with test tubes, filter papers, microscopes and other tools of the modern investigator, it could not be expected that the citizenry of that day should get unduly excited about the turbid condition of the stream that furnished the drinking water. Then, too, germs were strangers that were not recognized in good society until late in the nineteenth century. But in this progressive age the scrutinizing eyes of scientists are continually reminding us of our shortcomings in matters hygienic and sanitary and as a result life is longer and perhaps happier.

Old Rome was of course faced with the problem of refuse removal as were other populous communities of long ago. But the people of those ancient cities were not crowded into the apartment houses which today may singly accommodate a thousand or more persons. Drainage systems in use centuries ago would be of little avail now, for with the passage of time city populations have become more and more massed. Conveniences have made urban life more desirable. This tendency toward metropolitanism has naturally been accompanied with greater civic worries, and the things that mildly interested our forefathers are real problems today.

Disposal as Important as Removal

Before 1875 there was not a single adequate sewerage system in the entire world. True enough, almost all communities had some means for disposing of wastes, but those means were not thorough. Some cities required that a box or two of garbage should be hauled to the open country by all persons leaving the city in horse-drawn vehicles. Nowadays, a little more than fifty years later, there is hardly a city that has not an efficient and elaborate underground system of sewage removal.

The problem is both one of sewage removal and sewage disposal. Many cities, including some of the largest, are in need of efficient collection systems, for most sewerage systems in keeping pace with the city have grown like the roots of a tree, which follow the line of least resistance. Sewerage systems, efficient or otherwise, carry away the waste, but whither? Four fifths of all sewage in the United States is dumped raw into the nation's waterways. Further than that, nine out of every ten navigable streams in this country are polluted by civic or industrial wastes.

Streams are natural resources. For many years we have been alarmed about the destruction of our forests, but during all this time a natural resource destruction just as great and farther reaching in its effect has been going on unnoticed, for the rotting of a stream is not as conspicuous as the destruction of timber by saw or by fire.

Most people know that sewage is carried away through small pipe lines to large sewer mains. There the knowledge of the general public concerning sewage removal stops. Many may hazard a guess that sewage is burned, evaporated or used as a fertilizer. Few know that for the most part sewage pours from foul sewer mains directly into grisly streams that once were clear and sparkling. More than that, the city water for drinking and cooking may be water which, before purification, contained the wastes of a nearby community.

That this matter of stream pollution is not mere speculation is evidenced by the terrifying state of affairs that may be found in the back dooryard of nearly every city. It is hard to conceive of the pollutive power that the populous community has within its power.

Portions of the Ohio River are so polluted that cities must use large quantities of chlorine for disinfection, in addition to ordinary filtration, in order to obtain water for cooking and drinking, according to H. W. Streeter, sanitary engineer of the U. S. Public Health Service. Mr. Streeter declares that the last line of defense has been reached in the purification of the Ohio River water and that "the problem has definitely entered the phase when serious attention must be given to some plan for restricting further increase in the sewage pollution of the river."

During certain months the health of residents in a number of cities along the southern end of Lake Michigan is endangered through excess pollution of the lake by city and industrial

Fish life has practically been destroyed by the wastes from sugar plants where the Saginaw River enters Saginaw Bay, Mich.

wastes, according to tabulations of the Chicago sanitary district. In some months the pollution is so great that the ordinary purification processes used by these cities will not provide an entirely harmless water supply. These cities are already using so much chlorine that the water has an unpleasant taste.

The far-flung influence of the polluted stream may be seen in what happened to Chicago two years ago. Chicago was threatened with an epidemic of typhoid fever. Almost immediately the source of the trouble was found to be oysters from Chesapeake Bay some 1,500 miles away. City and industrial sewages, dumped garbage and oil from ships created a trouble maker out of the innocent appearing sea animal from the Chesapeake, which now, thanks to proper attention, is safe to eat.

The sewage of Detroit, of a present daily volume of 225,000,000 gallons, has been poured into the Detroit River for years. The city gets its water supply from this river about a mile above the sewer outlets. Ice floes and high winds have on several occasions caused the water flow to be turned back, thereby polluting the water supply. According to Henry F. Vaughan, health commissioner of that city, such an occurrence not long ago caused several thousand people to contract a minor intestinal ailment. The situation is being remedied by the extension of an intercepting sewer.

A delightful appearing place for a dip, but the Bacillus coli emptying from a sewer into this stream would wipe out a city.

Destruction of aquatic life is of course one of the first physical evidences of stream pollution. Fishermen along the upper end of the Illinois River at one time had little trouble in making a livelihood and in providing nearby markets with an adequate supply of fish. Twenty years or so ago the annual catch in this stream weighed about 21,000,000 pounds. By 1920 this was reduced to 7,000,000 pounds. At a hearing conducted recently by the Wisconsin railroad commission several men testified that they had hauled ten tons of dead fish from the Flambeau River—fish that had been killed by industrial wastes permeating the stream. These are not isolated cases. Any Izaak Waltonian will relate how his favorite fishing spot has been desecrated.

Dead fish float to the surface of the water. A school of motionless bodies eddying about near a log at the water's edge is a significant warning that the stream is poisonous. The stream may be dangerously polluted even though no dead fish are in sight, for disease germs are inconspicuous and they live long. Following the furious cholera epidemic in Hamburg in 1892, the national board of health of Germany issued an edict prohibiting the use of unfiltered surface water. Immediately the German mortality rate dropped. All Europe now practices the gospel of clean water.

The ways in which a grossly polluted stream may affect the health of the individual are as insidious as they are varied. The udders of cattle wading in polluted streams may pick up the contamination, which may be transferred to the milk. If the milk is not pasteurized, as is often the case in small communities, an epidemic will result. Foul matter from the Des Plaines River getting into the milk at Park Ridge, Ill., caused just such an epidemic a few years ago.

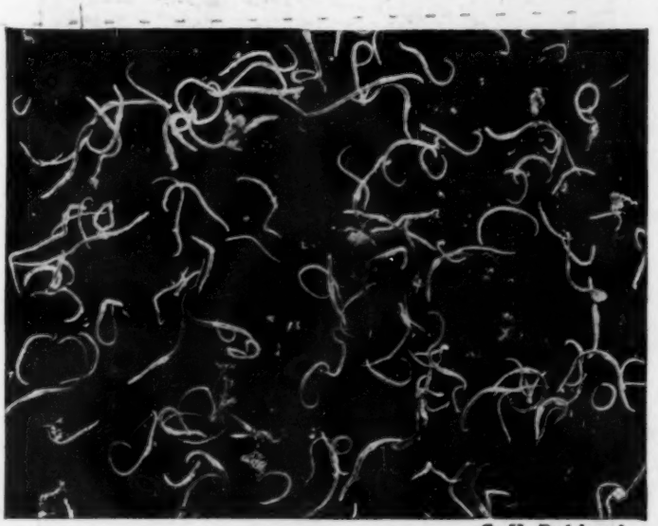
Of the diseases water carries, typhoid fever is the most prevalent, with cholera and dysentery also relating a sad tale of misery and death. The plagues and scourges, variously but graphically described by ancient writers, which have been the dread of mankind since at least the beginning of history, were largely due to polluted water supplies. We of this modern age can scarcely realize the scope of such epidemics which kept 1,000 grave diggers shoveling at top speed in Constantinople in the sixth century or which cut short the lives of 1,000,000 Egyptians in 1603. With the wealth and mechanical knowledge of which the world is now possessed, there is little likelihood that the old-fashioned plague will recur. But the hope that some day

communicable diseases will be eliminated will never be realized so long as the waterways are forced to play the part of open sewers.

Do Streams Purify Themselves?

The general apathy in regard to stream pollution may be accounted for in part by the prevalent belief that water purifies itself at frequent intervals. Sewage in waterways does undergo a purification process to some extent without external aid, provided—and here is the catch—that only a small quantity of poisonous matter is present in the water. When the stream is isolated and is not used as a source of water supply a limited amount of sewage may be disposed of by the stream itself through oxidization of the organic matter; this happens only after the water has traversed several miles. But when sewage in appreciable quantities is turned into the waterway the stream is unable to take care of it; a stench arises; human habitation along the stream becomes almost impossible, and real estate values fall.

Scientists have devised a number of ways whereby the solid waste matter may be extracted and converted into a fertilizer and the liquid transformed into a harmless fluid. Although treatment of sewage is comparatively inexpensive a recent survey conducted through the cooperation of state governments reveals that only two states treat more than one half of their sewage, and these two states represent only one sixtieth of the population. Only four states treat from 30 to 40 per cent of their sewage, while eleven states treat about one fifth of their wastes. Nineteen states dispose properly of but 10 per cent of their sewage. And out of the forty-eight states, twelve do not know where they stand on this serious problem.



G. H. Radebaugh

Tubificid worms, taken from the stones in a sprinkling filter plant, reduce diseased organic matter to harmless earth.

The thirty-six states that have made some advance in sewage disposal have a population of 91,000,000 people. Of these, only 15,000,000, or less than one fifth, are provided with any form of municipal sewage treatment. Of the remaining 76,000,000, with allowance for rural population, probably 50,000,000 are polluting the country's waterways.

It seems, then, that sewage treatment is in its infancy, a period in life that it can no longer well occupy, according to Wade Hampton Frost, surgeon of the U. S. Public Health Service. Dr. Frost believes that, with the continued rapid growth of urban populations and the resulting increase in pollution, it is certain a point must be reached at which water purification plants of the highest efficiency will no longer be able to deliver consistently safe fluids.

The Sanitary District of Chicago, which encompasses Chicago and forty-nine other municipal corporations, now has a total population of 3,500,000 people. At the present rate of increase the population of this district will be about 6,000,000 by 1945. At that time the capacity of the nearby streams to dilute the sewage created by these people will have been exceeded one and a quarter times. However, Chicago will soon be able to laugh up her voluminous sleeve, for she has just completed the largest single sewage treatment plant of the activated sludge type in the world. This unit alone serves a population of 800,000. In addition to several minor sewage treatment plants, by 1945 Chicago will have in operation four major plants which will take care of practically all of that city's sewage.

Milwaukee saw the consequence of dumping sewage into Lake Michigan and then pumping it out again for drinking water, so a sewage treatment plant was built with a capacity of 128,000,000 gallons daily. The Milwaukee plant was installed both to protect the water supply and to provide healthful bathing along the lake shores. The sludge, or treated waste matter, from this plant is filtered, dried, ground and stored for mixing with other ingredients and sold as fertilizer, a business-like method that at least pays for part of the removal of the waste product from the plant.

Disposal Plants in Small Cities

Not by any means is the building of sewage disposal plants confined to the large city. In fact, many small communities have been able to build adequate plants with a per capita cost that compares favorably with that of the large city plants.

Pontiac, Michigan., with 52,500 people, built a plant of the Imhoff tank and sprinkling filter type at a per capita cost of $5.18. Brockport, N. Y., constructed one at an average cost of $7.90 for each one of its 3,800 citizens. An activated sludge plant was built not long ago

by Indianapolis, a city of 360,000 people, at a per capita cost of $6.

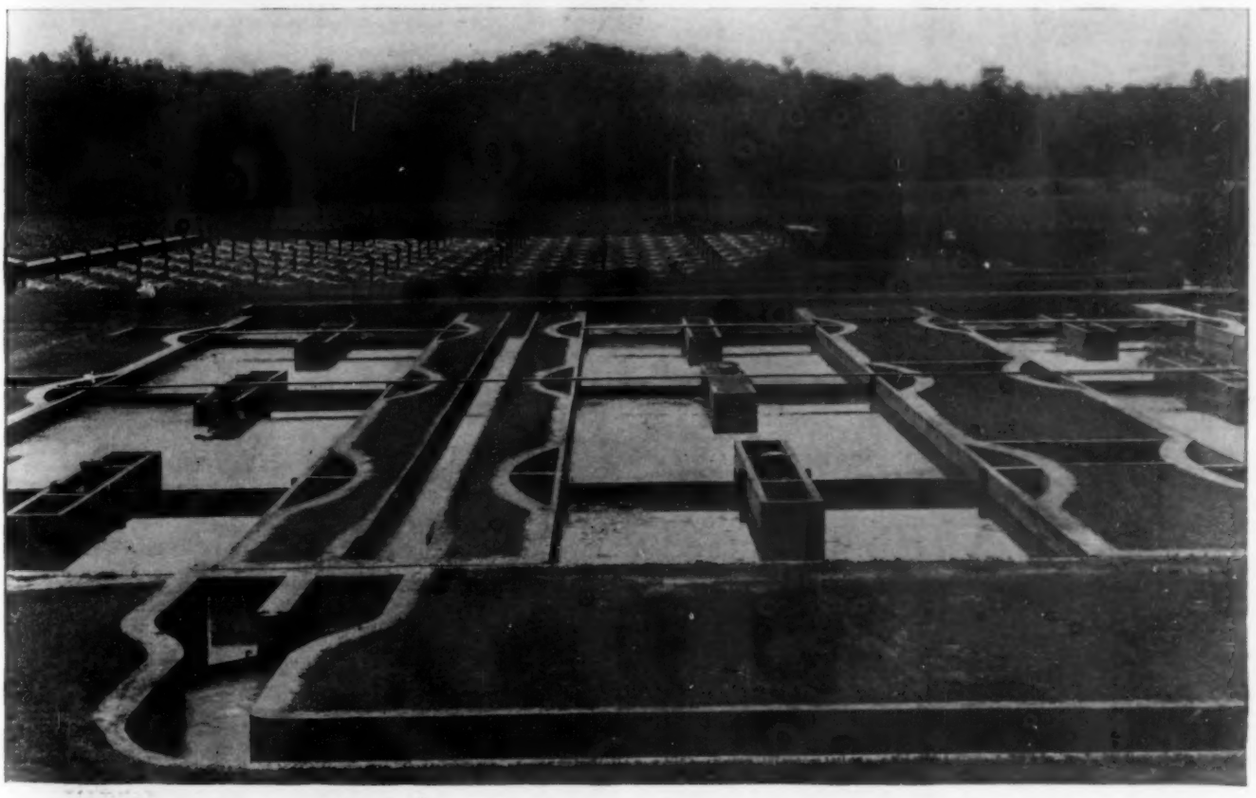
An indiscriminate compilation of figures gathered from thirty-two sewage treatment plants scattered throughout the country revealed a per capita cost of but $8.14—much less than the cost per person of fixtures for the average bathroom.

Industrial plants, too, have been installing sewage treatment plants. Many manufacturers have found to their surprise that through analysis and treatment of their waste material much of it may be reclaimed and converted into valuable by-products. Waste matter from the Chicago stockyards, for instance, is equivalent to the amount of sewage that comes from a city of 1,000,000 people.

tions, while Wisconsin is demanding a law with teeth in it.

Few large cities are so situated that they are not bothered with the matter of sewage disposal. However, the wastes of New Orleans are swept away by the Gulf stream with little inconvenience to human beings, while favorable ocean currents dispose of the sewage of Los Angeles after it leaves the pipe line extending some distance out in the water. On the other hand, Walla Walla, Wash., must carefully treat its sewage for the water content is used for irrigating truck gardens.

The average citizen's idea of a clean stream often differs from that of the sanitary engineer. The enthusiastic citizen may visualize a sparkling stream that contains water fit enough to



In these sedimentation tanks of the Atlanta, Ga., sewage treatment plant, decomposition of the sewage takes place, the solids settling to the bottom of the tanks.

The simplicity of treatment processes and the action that some of the larger states have recently taken indicate that the movement against stream pollution is gaining momentum. Michigan now demands that every city and every industry treat its sewage. Cities will of course cooperate with industries and in many cases two or more smaller cities will use the same treatment plant because of the economy. Illinois recently passed a law creating conservancy districts, an action that will result in the careful disposition of almost all the wastes of the state. New Jersey, Texas, California and Missouri now have definite pollution regula-

drink even at the outskirts of a large city. The sanitary engineer realizes that a certain amount of natural pollution will exist in crowded areas through surface water drainage from streets and fields. He knows that more or less waste matter will continue to find its way into streams in districts of condensed populations and that water near cities cannot maintain its pristine purity. But the sanitary engineer agrees with the average citizen in demanding that streams should be kept free of the quantities of pollutive wastes that destroy fish and plant life, making boating and swimming unsafe and residence along the stream impossible.

Health Examinations for

By
Cora
de Forest
Grant

MEMBERS of the medical profession in the nation's capital have made 4,453 physical examinations of parochial school children during the last school year, as a voluntary contribution to child welfare.

Early diagnoses and correction of remedial defects in childhood frequently represent the endless differences between success and happiness on the one hand, and on the other failure and misery. This guiding philosophy combined with the fact that school medical inspection service in the District of Columbia, although provided by a congressional appropriation, is not available to the pupils of private and parochial schools, prompted this gratuitous service to children.

Numerous Physical Defects

A summary of the diagnoses of these 4,453 examinations disclosed the following percentages of physical defects: defective teeth, 79; diseased tonsils, 44; impaired vision, 39; postural defects, 10.5; cervical glands, 10.6; broken arches, 9.9; unsuccessful vaccinations, 9.5; granular eyelids, 10; unhealthy skin, 5.9; cardiac defects, 4.8; discharging ears, 4.2; pulmonary defects, 2.7; spinal curvature, 2.5; reflex impairment, 2; nasal obstruction, 1.7; abdominal defects, 2.5.

As rapidly as these examinations were completed, letters containing a report of the physician's diagnoses were sent to the parents and a check-up system on the correction of the physical defects was immediately organized.

Weighing and measuring the children who were being examined, including all the pupils of five selected schools, had been inaugurated in the early autumn. This weighing and measuring was repeated at regular intervals of one and two months and was followed by health lectures. Nutrition clinics were conducted every week in each of these five schools.

All Volunteer Service Except Director

One paid worker, Margaret-Joyce Hilleary, operated the machinery of this extensive child health program. In addition to the large number of physicians whose enthusiastic service this worker was instrumental in procuring, were parent-teacher groups, students from the sister college and nurses. These volunteers assisted with the clerical work, the follow-up visits and the mass weighing and measuring.

The urgent need for general school medical inspection service was emphasized in 1923, following a survey of the physical condition of 700 pupils at Trinity parochial school.

At that time an organized corps of volunteer physicians, many of whom were specialists,

All School Children

accomplished the thorough examination of these 700 children within a period of two weeks. To facilitate their work the Georgetown Hospital converted several rooms into temporary clinics; and two local welfare agencies, the National Catholic Welfare Council and the Washington Tuberculosis Association, furnished a staff of nurses and nutrition workers to assist in recording the diagnoses.

These examinations revealed an astonishing number of physical defects not previously diagnosed and in many instances wholly unsuspected.

Mass Meeting of Parents

Realizing how futile a thing is public interest in child health without the wholehearted support of the parents, a mass meeting was called by the pastor of Trinity parish following the examination of the children.

Anxious parents responded, filling the Trinity auditorium to standing room only. A lecture with stereopticon slides was presented, which convincingly portrayed the corrective processes through which other Washington children had passed from various stages of ill health to physical fitness. These photographs of children before and after remedial defects had been corrected, dietary habits changed, and simple health rules followed, were a revelation to the audience. Unhesitatingly the parents pledged their support of this better health for children campaign.

Then followed the organization of two nutrition clinics at Trinity school, which soon became open forums. Here physicians and health workers addressed little groups of parents and children, and the far-reaching influence of this initial health work in Washington's parochial schools is reflected today in a continued volunteer service to little children.

Compulsory education, whether in public or private schools, brings together children from homes of vastly different standards of hygienic living, and unless reasonable precautions are taken, the schoolroom becomes a potential breeding ground for contagious disease. Medical inspection service at regular intervals will obviate this danger.

History of School Medical Inspection

Such service is not intended to dispense with the attention of the family physician or the responsibility of the parents. It is simply a means to an end—better health for the children.

School medical inspection dates back to 1833. France in that year passed ordinances and decrees urging medical and sanitary inspection. In 1887 these laws were made obligatory in all of the French schools, public and private.

Brussels, in 1874, inaugurated the first system of having physicians visit the schools regularly three times each month. Other Belgian cities recognizing the success of this method immediately incorporated a similar service in their schools.

Germany established school medical inspection service in 1889, although the work had its initial impetus some twenty years earlier. Other European countries followed in quick succession.

Boston, in 1894, was first to introduce the movement in this country. Here its scope was confined to sanitary inspection, the detection of communicable disease and the control of incipient epidemics. Philadelphia established the work in 1895, and next came New York City in 1897.

In 1906, Massachusetts passed the first mandatory law providing for a state-wide system of school medical inspection.

Limited to one American city in 1894, school medical inspection service has assumed the following status in the United States today, according to the latest official report from the federal bureau of education, Department of Interior:

States Having Medical Inspection Laws

Alabama	Louisiana	North Dakota
Arkansas	Maine	Ohio
California	Maryland	Oregon
Colorado	Massachusetts	Pennsylvania
Connecticut	Minnesota	Rhode Island
Delaware	Mississippi	South Carolina
District of Columbia	Missouri	South Dakota
Florida	Montana	Utah
Georgia	Nebraska	Vermont
Idaho	Nevada	Virginia
Indiana	New Hampshire	Washington
Iowa	New Jersey	West Virginia
Kansas	New York	Wisconsin
Kentucky	North Carolina	Wyoming

States Having Mandatory Medical Inspection Laws

Arkansas	Kentucky	New Jersey
Colorado	Massachusetts	North Carolina
District of Columbia	Minnesota (conditional)	Pennsylvania
Florida	Montana	Rhode Island
Idaho	Nebraska	South Carolina
Iowa	Nevada	Utah
Kansas (dental only)	New Hampshire (regulation)	Vermont (conditional)
		Virginia

Maine: Mandatory in cities under 40,000 in population.
New York: Mandatory in all localities except first-class cities.
Wyoming: Mandatory in incorporated cities or towns.
Alabama: Mandatory in counties with a full-time county health officer.
Connecticut: Mandatory in cities over 10,000 population.
Georgia: Mandatory in counties with a full-time county health officer.
Indiana: Mandatory in cities over 100,000 in population, in public, private and parochial schools.
West Virginia: Mandatory in all independent school districts.

This national expansion of school medical inspection is paralleled by a marked development in the scope of service.

Originating in the sanitation of school buildings and grounds, medical inspection service has become a big factor in modern preventive medicine. In its present form it has five objectives which, according to Cornell, are:

1. Detection and correction of physical defects.

2. Detection and exclusion of cases of parasitic and contagious diseases.

3. Maintenance of good hygienic conditions in schoolrooms.

4. Diagnosis and treatment of cases of mental deficiency.

5. Correlation of medicine and pedagogy to produce the maximum of efficiency in the school system consistent with the preservation of health.

How Doth the Little Germ

By Ruth C. Sturtevant

FEW people today have not heard of germs, but equally few have any idea what a germ looks like, how it lives and how it functions. For them this is written.

Germs are tiny living beings found wherever there is organic matter and moisture. They have as definite living habits as human beings have. They require food and moisture and warmth for growth and, like any animal or plant, thrive better on some foods than on others.

The usual basis of germ food prepared in a laboratory is beef broth, to which are added other ingredients to promote the best growth. Certain germs like those of diphtheria or of scarlet fever require the presence of blood in their food; the organism used in the production of commercial buttermilk requires a milk basis, and some germs thrive best on a food made from potatoes.

A diagram showing the general shapes of diphtheria bacilli: a, b and c show rods with dark spots; c, palisade arrangement; d, plain rods.

Often the laboratory worker adds special sugars or dyes and the germs show individual reactions to these substances, thus enabling him to distinguish one from another when they may look much alike. When examined under the microscope—for germs are so small they can be seen only by the use of a powerful lens—two germs may be exactly alike in shape and size, yet when other tests are made they prove to be different.

Not all germs produce ill health. Some are as essential to the work of nature as rain and sunshine. For instance, germs cause decay of dead things; they form nitrogen, which is so necessary in fertile soil; and in the manufacture of cheeses and buttermilk, germs are essential to the chemical process that produces the proper flavor and consistency.

However, the average person is far more interested in the disease-producing germs, and the particular characteristics of a few of the most familiar germs connected with human illness will be demonstrated.

A dreaded disease of childhood is diphtheria. This illness is caused by the diphtheria bacillus. When this organism is seen under the microscope, magnified several hundred times by use of a special lens, it is a rod, appearing to be about one thirty-second of an inch long. Since there are many bacteria of this same general shape, it is necessary that a distinguishing characteristic be found. Therefore the laboratory worker dyes or stains the organism with special dyes, which have been found by repeated experiments to demonstrate most clearly the specific outline of the diphtheria bacillus.

The rods may be a light pink or blue, according to the dye used, but the determining feature is the appearance of dark spots at the ends of the rods or sometimes several dark bars across the rods. They may occur singly or in groups in so-called palisade arrangements. Sometimes there are no dark spots; instead the rods seem to be solid or of one color. In this case it is well to make further tests to identify the germ.

The only ways in which diphtheria may be contracted are from a person ill with the dis-

ease or from one who is carrying the germs. From a person who is ill with the disease, it may be spread by kissing, by using dishes or utensils from which he has eaten and which have not been carefully washed, by eating food left on his plate, or by using a handkerchief or towel or some article which he has recently used. The germs are carried in drops of moisture from the infected area and as long as this laden moisture is available there is danger of contracting the disease. The diphtheria bacillus may live a long time after the moisture surrounding it has dried, thus making it necessary to disinfect thoroughly anything that has been used by the patient before and during the time of illness.

Carriers of Diphtheria

Many persons with some natural resistance may have contracted it but, because of individual immunity, they have such a light attack that they may suffer only a slightly sore throat or no disability whatever. These persons who are not themselves affected may be the cause of a serious case of the disease in other persons who are not naturally protected. Sometimes a person may have had the disease and regained his former healthy appearance but still have the germs in the passages of the nose and throat. The germs may be so far up in the nasal passage that gargling will have no effect on them. The antiseptic solution must then be placed in the nostrils of the patient, allowed to run through to the throat and then spit out. Cases are reported in which the patient has been found to harbor the germs for nearly a year although otherwise perfectly well. It is because of this ability to carry the bacillus that health departments are requiring cultures that do not show the presence of the organism from the nose and throat of each patient. Frequently persons working in dairies or restaurants will in some way get the contaminated droplets into milk or food and thus infect consumers. Epidemics of diphtheria have been traced to carriers working in such places.

The diphtheria germ is one of those that, instead of causing a general infection, produce a toxin, or poison. The bacillus finds a suitable place for growth in the mucous tissues of the body, most commonly in the lining of the nose and throat. Here the germs grow at the expense of the body tissue beneath them and form a membrane containing extract from the tissues, dead cells and pus. Beneath this mass or membrane a poison is secreted, which has a disagreeable odor and which is absorbed by the rest of the body cells. This toxin especially attacks the muscles of the heart, kidneys and nerves and may destroy them. It is not the germs themselves that destroy but the terrible poison that they produce.

What Antitoxin Does

For this reason, the cure must not be so much to affect the organisms as to neutralize the poison. This is what antitoxin does; it increases the amount of substance formed in the body against the poison, thus protecting the susceptible tissues, and it changes the substance in the tissues in the region of bacterial growth to a chemical nature inhibiting growth.

In a few instances persons who have contracted diphtheria will have enough body protection to prevent death from the disease, but they usually have serious heart trouble, paralysis or kidney trouble, which may last the rest of their lives. Antitoxin does not affect the heart, as is sometimes believed, and it is safe to say that only antitoxin can cure and the sooner it is given the quicker it will react.

(A second article by Miss Sturtevant on the subject of germs will appear in the May issue.)

We Get CLEAN MILK in our Town

By Anna Dee Weaver

"OH, SUCH CREAM!" exclaim the guests in our small town as they view luscious strawberries afloat in a dish of cream, or fluffy whipped cream atop a piece of wild raspberry pie, or delicious coffee of that particular shade of chocolate brown that only good rich cream can produce.

And well they might exclaim. This cream is not only rich and yellow, but it is also clean and free from tuberculosis bacteria, and that is a rare combination in a small town.

Satisfied if Milk Is Rich

Tragic it is that most people are so little concerned about the health aspect of the milk problem. If the milk is rich, they are satisfied. If it is not, they change dairies. They know nothing about the sanitary conditions of the dairy from which the milk comes, about the cows, the barns, the milker or the equipment.

In college when I studied about the dangers that lurk in unclean milk, about the tuberculosis bacteria that may be transmitted from cows to man through the milk, about the insanitary dairy conditions that prevail in most small towns, I said to myself, "If I ever live in a small town, I'll pasteurize every drop of milk that comes into my house." But here I am, in a town of 1,000, and never a thought do I give to the milk I drink. The reason is that my dairyman has, to borrow a HYGEIA term, a sanitary conscience. I am convinced that he is one in a thousand.

Fortunately, Nebraska has a law that requires dairy cows to be tested annually for tuberculosis. This law has untold health value, but there are loopholes, of course. The dairyman may remove suspicious cows to other quarters before calling in the local inspector. He may have his cows tested today and tomorrow buy a dozen cows that have not been tested. Most dairies in small towns are removed from the all-seeing eye of the state inspector. It would be a physical and financial impossibility for the state health department to keep an absolute check on the ways of each dairy in each town in a state. A dairy may be reported and subsequently examined if the standards are shockingly low, but the average small town consumer is prone to accept conditions as they are, probably lament about them, but never carry his complaint to the proper authorities.

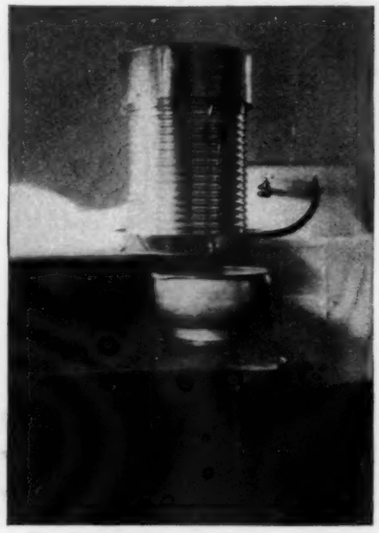
Where Competition Hurts Business

Small town dairymen complain that their volume of business will not warrant the expenditure of money for adequate equipment. There is truth in the statement. In this instance competition hurts rather than helps business

and service. In our town six men sell milk. Two of these have three fourths of the trade; the sixth milks one cow and supplies six or seven customers. In a nearby town of 3,000 there are ten dairymen. Recently the competition has resulted in price cutting so that none have a paying business, yet all ten remain in the game.

An investigation of the conditions in many small towns has convinced me that our dairy is really superior and by prying into the working details I am convinced that others could be just as good.

During the warm weather the milking is done outdoors. Each cow is brushed and her udder wiped off with a clean, damp cloth. Fortunately ours is a sandy country so there is no problem of mud. Hooded pails are used, more than half of the top being covered. These are a long step in sanitation from the open milk pail of my childhood days. The milk is strained out in the field into a large milk can. Thus the dirt that does drop into the milk is quickly removed.



Milk cooler and aerator, with corrugated water drum.

Straining Out the Foreign Matter

And just a word about that strainer. The funnel body and strainer are separate. The strainer consists of two disks of fine mesh, each separate. Between these disks is placed six layers of sterilized cotton. Thus even the finest sediment is removed. The best part about this strainer is that it can be thoroughly washed: this cannot be said of the strainer made in one piece. On windy days when the air is dust-laden, the milk is strained again before it is bottled.

The milk is then run through a cooler and aerator. The water drum is corrugated. The milk flows over this drum while cooling, thus traveling a greater distance than if the drum were not corrugated. This improves the flavor of the fresh milk by driving out objectionable animal and food odors, which new milk always contains. The growth of bacteria is thus checked, and the keeping quality of the milk is increased.

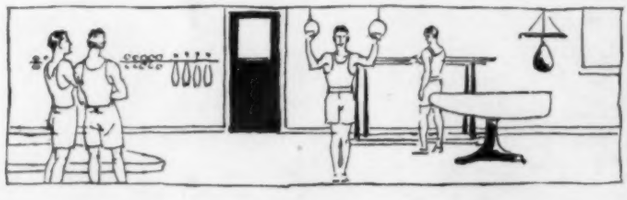
Probably the greatest problem of the small town dairyman is sterilizing bottles. The approved method is to invert the bottles and sterilize them with steam. Machines for this purpose are expensive. In fact, the needs of the small dairyman appear to have been overlooked by the manufacturer. Our dairyman uses an improvised steamer, which is fairly successful although slightly inconvenient.

The only piece of equipment that every farmer in the country does not have is the cooler and aerator, and this costs about $16. The steamer costs time, labor and ingenuity. So I feel that any dairyman can do what ours is doing.

Fortunately for the customers, the cream content of the milk is not considered. It is far above the 3.2 per cent butter fat required by law. Our cream is the pure separated article. There is no coffee cream, no double or triple X. In fact, it usually is all triple X. This is probably unnecessary, but the country is so near at hand and traditionally thick, rich milk and cream are always associated with that vast land, so our dairyman perpetuates this delightful tradition.

Requisites for Clean Milk

If people, especially parents of little children, would only realize the necessity for clean milk, if they would investigate the source of their milk supply and demand the highest standards possible, the milk supply would be made safe. The responsibility of the small town dairyman is great indeed. He is a guardian of health. It is not expected that a certified dairy will be maintained. That would be splendid, of course, but all we ask in our town is cleanliness, and every town should demand that. Here are the requisites: clean barns, clean healthy cows, clean equipment, and a clean milker.



The Evolution of Modern Medicine

By Frank Billings

MODERN medicine dates from the discovery of preventive vaccination made by Edward Jenner in 1796. This monumental discovery established the principle of protection against disease by inoculation with virus. Cowpox, or vaccinia, is a mild, nonfatal form of the dreaded disease smallpox. A susceptible person will be protected against an attack of smallpox if rendered immune by inoculation with cowpox. Jenner's discovery was important also because it was one of the first demonstrations of the value of observation, experimentation and deduction in the establishment of real knowledge. Jenner's work was the only outstanding event of the period including the first half of the nineteenth century that had any influence in the betterment of preventive and clinical medicine.

Research in Anatomy Progresses

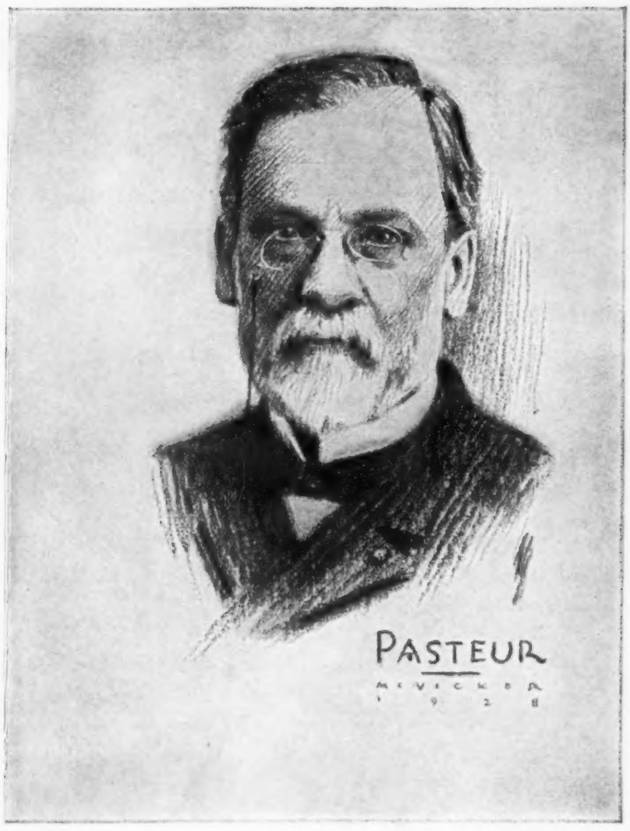
The invention of the compound microscope stimulated interest and study of the physical and natural sciences including anatomy. This period, too, was marked by the establishment of research laboratories. With this method of attack discoveries were made in the physical and natural sciences that are still fundamental and enduring. Advance was made particularly in research in human normal and morbid anatomy. Virchow, Cohnheim and their students established the underlying principles of changes in cells caused by disease. The ophthalmoscope, the stethoscope and other instruments of value in investigation were devised.

During this period and indeed until the beginning of the last quarter of the nineteenth century, clinical medicine remained a field obscured by ignorance of the causes of the infectious and some other general diseases. This ignorance was the cause of the adoption of speculative systems of practice based on philosophic theories and guided mainly by empiricism in the treatment of disease.

When Plagues Were Rife

Many of us can remember and some of us have experienced the harrowing conditions that occurred when death-dealing epidemic infectious diseases prevailed. Although preventive medicine possessed the means of protection against smallpox during the nineteenth century and in many instances these measures were applied with great benefit to communities, prejudice due to ignorance and the failure to enforce vaccination permitted smallpox to continue to disfigure, disable and kill thousands of people. Serious epidemics of diphtheria, scarlet fever, typhoid fever, typhus fever, cholera, yellow fever, bubonic plague, cerebrospinal fever, dysentery and other infectious diseases occurred throughout the world. The number of deaths was appalling. To them was added the embarrassing influence on international and interstate commerce of the application of quarantine regulations in the effort to prevent the further spread of these plagues.

Tuberculosis annually caused one twelfth of all the deaths. The diarrheal diseases of infancy annually caused the death of 300 of every thou-



sand babies born. Ignorance of the causes of infection, and especially of pus-producing infections, made dangerous operations necessary.

Modern medicine as practiced today dates from the time of the epoch-making discoveries of Louis Pasteur. The work of Robert Koch was of great significance in devising a technic for the artificial growing of germs on solid substances. This furnished a means for separating and classifying the dangerous bacteria and also enabled him to establish certain rules for proving the specific causative relationship of a given bacterium to a certain disease. The discoveries of Pasteur and Koch remain still the fundamental guide in the investigation of infectious diseases.

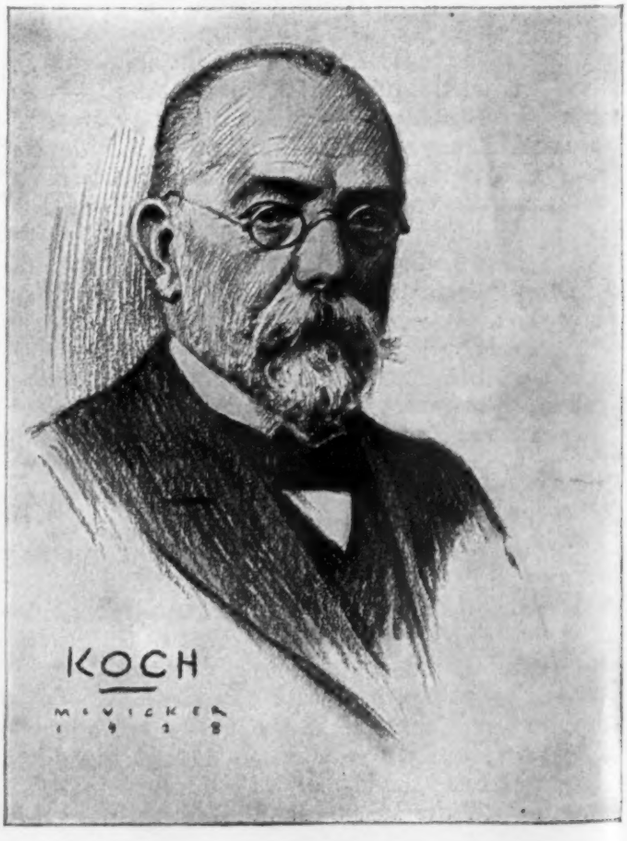
Conquest of Infectious Diseases Begun

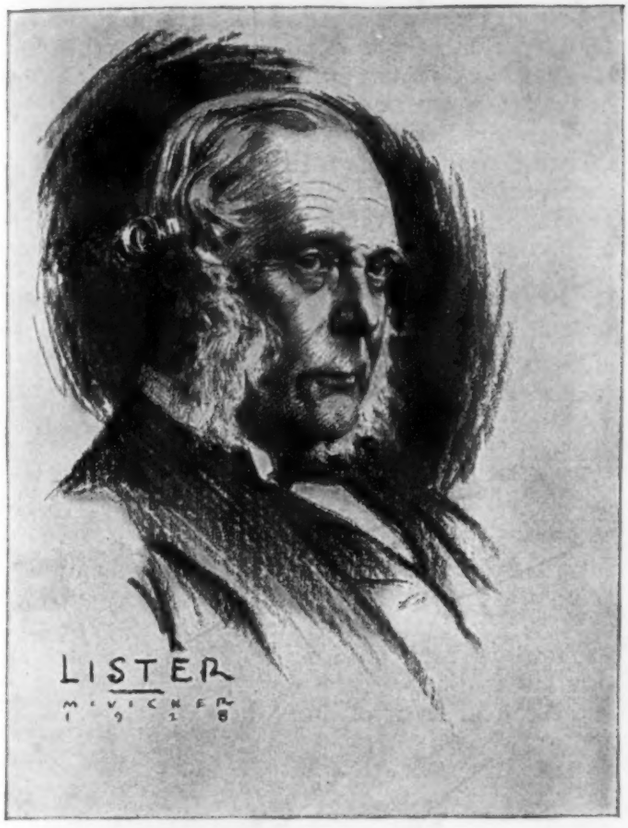
The period including the last quarter of the nineteenth century and the early years of the twentieth century was characterized by intensive research. It was productive of an enormous fund of facts concerning the relationship of micro-organisms to the infectious diseases. During this period, too, was gained all the valuable knowledge now possessed in regard to the action of germs in causing disease in human and animal hosts through the excretion and secretion of antitoxins and toxins. Men learned how the invading living agents cause the formation of substances in the body of the host in the form of antitoxins and antibodies. These facts enabled scientists to obtain these protective substances in the serum of horses and other animals, after they had been inoculated with infectious bacteria. Serums began to be used in a practical way.

Typhoid fever, cholera, the diarrheal diseases, dysentery and some other infections were found to be due to the bacterial contamination of food and drink. It was discovered that many infectious diseases are transmitted from the infected individual to the nonimmune person by blood-sucking insects and measures of sanitation were perfected to control this class of diseases. Thus it is possible to prevent malaria, yellow fever, elephantiasis, bubonic plague, African sleeping sickness, kala-azar, typhus fever and Rocky Mountain spotted fever. Some infectious diseases, it was found, are transmitted from the sick to the well by direct contact, and isolation and quarantine are still necessary to prevent the spread of diphtheria, measles and scarlet fever.

Dared Death to Find Truth

These accomplishments frequently involved expert qualification, splendid courage and purposeful energy on the part of the hundreds of investigators who carried on the work. The hazards to health and life were as great if not greater than the spectacular adventures of the aviators who last summer crossed the Atlantic Ocean in a nonstop flight. Indeed some of these research workers acquired permanent disabilities or died from the infections they were investigating.





Sanitary science utilized these discoveries during the early years of the twentieth century. Its success has depended on the efficient work of sanitary engineers, entomologists, immunologists, public health officials and physicians, with the cooperation of national, state and municipal governments. The work accomplished justifies the statement that sanitary science, rationally administered, unhampered by politics and with sufficient funds, could make the world free from infectious diseases, the captains of the hosts of death.

New Principles of Nutrition

During the last fifty years important discoveries have been made in physiology through animal experimentation and through the application of chemistry in the study of the organs of the body and of the neuromuscular system. Chemistry has demonstrated the principles that govern nutrition and the need of certain food factors called vitamins for the efficient growth and development of the body. These investigations in nutrition have revealed the cause, means of prevention and cure of scurvy, rickets, pellagra and some other less serious conditions.

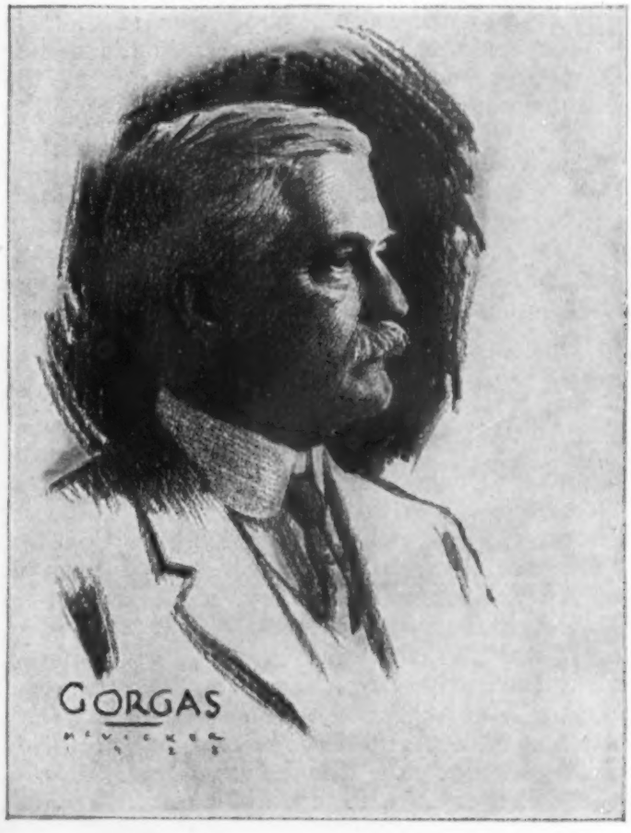
Of untold value to investigations in medicine have been the discovery and utilization of the x-ray, radium emanations, ultraviolet rays, blood tests, functional tests of kidneys and liver, the development of psychologic investigation and the invention of precise instruments and of delicate laboratory tests. Chemistry and pharmacology have produced drugs and preparations of the greatest value in medicine, such as thyroxin, insulin, arsphenamine, cocaine, and ethylene, a new and safe anesthetic.

Clinical Medicine

In 1867, Joseph Lister, an English surgeon, recognized the importance of the discoveries of Pasteur in fermentation and putrefaction and developed a surgical technic known as antiseptic surgery. Antiseptic surgery gave greatly improved results in operations, but the technic was not perfect as it was not recognized that wounds were likely to become infected from unclean hands, clothing and other objects that came in direct contact with the wound area. The faults in the technic of Listerism led to investigation and the adoption finally of a surgical technic that implied absolute cleanliness. This has led to the saving of thousands of lives of the injured and diseased.

A like aseptic technic has relieved motherhood of its terrors. Formerly childbed fever killed as high as 40 per cent of mothers in childbed. At the present time, with the efficient application of absolute cleanliness, or asepsis, the danger of septicemia during childbirth is so small that when it occurs it may be termed accidental or beyond the control of the physician.

The medical accomplishments narrated have had great influence on the development of the industries and of commerce. The control of



preventable diseases has opened up formerly uninhabitable territory with rich natural resources. Freedom from quarantine regulations has led to the steady and rapid growth of maritime and interstate commerce.

The knowledge of preventive medicine and rational sanitary administration enabled engineers of the U. S. Army to build the Panama Canal under the wise direction of General William C. Gorgas, and the Canal Zone is now as salubrious for the white man as is any part of the civilized globe.

Transportation Owes a Debt

Facilities for rapid transportation by means of steam and electric railroads, the motor car, motor boat and the flying machine have developed under the favorable conditions of the health protection of the people of the civilized globe, which would have been impossible in the days of the frequent devastating plagues. Great industries have grown up more rapidly than would have been possible under the former unhealthful conditions due to the prevalence of epidemic diseases among workers.

Sanitary science has led to an understanding of the value of personal hygiene as an important factor in the promotion of community health. An aroused interest in outdoor exercise and physical education has done much to further the modern idea. The knowledge of disease prevention has enabled scientists to travel and to make investigations in anthropology, archeology, geology and other important subjects of interest to man, in regions which would be dangerous to health and life were this protection not available. Aseptic surgery has enabled research workers to make more extended experiments on laboratory animals with great productive results and with greater safety and less suffering for the animals.

Last Fifty Years Remarkable

From what has been related justification is found for the statement that the accomplishments of the last fifty years in the development of the physical and natural sciences and in preventive and clinical medicine have been greater and more beneficial to mankind than the discoveries of all previous recorded time.

SWAT THE EARLY FLY

SIGNS of spring are legion. One of them is the early fly that wakens from his winter sleep and begins to buzz in and out of the kitchen door before the screens are up for the summer.

The fly is a nuisance. What more disturbing to comfort than the elusive fly alighting here and there and singing his exasperating song as one settles down with a book? What is so maddening as the solitary fly that invades the bedroom when the sun comes up, making life miserable for an hour before the alarm clock calls to labor?

Daily Vigilance Required

But the fly is not merely a disturber of siestas and early morning naps. He is a creature of low habits that goes about scattering dirt and disease. Bred in filth unmentionable, he is a social climber of the worst type. Straight from his haunts in stable or refuse dump he flies to the garbage can and from there it is an easy step inside the kitchen door of home, restaurant or bakery. Food is then his chief concern. He perches on pies set on counters without covers and legions of him get inside bakery windows. How many times does a housewife enter a food emporium with intent to buy and find herself disgusted by the presence of flies on food!

Getting rid of flies is not an annual affair like cleaning out the basement. It requires daily vigilance and a fastidious attitude. In too many places where food is handled flies are complacently accepted as a necessary evil. True, these are not the desirable type of restaurant or bakery, but they purvey food to thousands and the results show up at the doctor's office.

"You can't get rid of flies in a place where you have food," a delicatessen owner was heard to say. "If you put that poison powder around it gets on the food."

More than One Method of Extermination

It was a nice question, which was worse, the powder or the flies on his cakes and tarts? He ignored other methods of extermination.

All the world knows that screens will keep out flies in the mass. A housekeeper also knows that a few are going to get in even when rigid sanitation is practiced, but ten minutes a day with a stout fly swatter will accomplish wonders. Careful disposal of refuse is the preventive, but zealous wielding of the swatter is the cure. Swatting one fly in April prevents hundreds in July.

Congenial Occupation for the Mentally Ill

Courtesy The Modern Hospital

Weaving and rug room in a state hospital for mental diseases.

By L. D. Hubbard

IN ALL progressive institutions for the mentally ill, great emphasis is laid on the value of work. Patients and their relatives often misconstrue this fact and complain that a person sick enough to be in a hospital is too sick to work, or that if a person is well enough to work in a hospital he is well enough to work at home. These unfortunate attitudes would be avoided by a thorough understanding of the part work plays in the care and treatment of the mentally ill patient.

There are three great purposes for which patients are coaxed, urged and commanded to work. The first and most important purpose is to aid in the patient's recovery or rehabilitate him to such an extent that he can take his place in the community once more as an economic asset. The second purpose is to make a patient economically useful to the institution even if he cannot adjust in any other environment. The third purpose, one which is comprehended only with difficulty by one unaccustomed to the care of mental patients, is to substitute a harmless activity for a harmful one.

To be a useful therapeutic measure, work must be congenial to the patient. In the endeavor to provide adequate occupation, progressive institutions have occupation classes teaching the most diverse handicrafts. For example, there is provided for the women patients of one state hospital a large, well-ventilated and well-lighted building in which trained teachers give the patient opportunity to make all manner of articles from rag rugs to sealing wax jewelry. There are large and small looms on which the women weave belts, towels, scarfs, rugs and even bed spreads of every conceivable color and pattern. Stamped goods are ready for embroidering and sewing machines are at hand for those whose tastes run to dressmaking.

Basket weaving, pottery and beadwork are taught and toys are sandpapered and painted. Candlesticks, bridge table numbers, pins, lockets and innumerable other trifles are decorated with artistically applied sealing wax, and patients who show talent have the use of water colors. No matter how a patient may protest when she is first taken to work in the class, she is sure to find something that will interest her and provide occupation for hours that would otherwise hang heavy.

To the second group belong all the industrial departments of the hospital. These occupations come largely into the first group, also, because many patients prefer plain sewing, housework and laundering to more artistic pastimes. The laundry and sewing rooms provide work for a large number of women patients. In the sewing room are made all the dresses, underwear, sheets, towels and scarfs that are used in the wards, and there too the laundry is mended.

In the wards the women patients find plenty to do in the way of general housework—sweeping, dusting, polishing, bed-making, taking care of pantry and dining room, running errands and helping care for feeble patients. Many patients who are too ill mentally to keep themselves neat or to say a sensible sentence can be useful and contented all day pushing a floor polisher.

H. Armstrong Roberts

Substituting a harmless activity for a harmful one.

The third purpose of occupation is negative but none the less essential. At a casual glance it does not seem economically useful for a woman to spend the day tearing pictures out of a paper, but if she does this in preference to tearing her clothes to shreds, throwing the furniture about and fighting other patients, it is a distinctly advantageous way of spending her time. Many towels are hemmed in scallops and shirred and tucked and embroidered in weird designs only to be raveled out again at the end of the day by the nurse. Patients who would otherwise destroy their environment bit by bit will crochet endless caps, bags and indescribable objects if given a handful of yarn and a common pin.

Patients will often argue that they have worked all their lives and now they have earned a rest. That may be true, but a change of occupation is a more effective rest than idleness and as soon as a start is once made the patient herself realizes this. Some women who have spent their lives in the midst of household drudgery welcome the opportunity of learning to make dainty embroidered articles and attractive baskets. The working hours are short and the surroundings pleasant, about five hours each day with a long luncheon time. Refreshments are often served during the course of morning or afternoon and provide a brief recess.

As to the disposition of the articles made by the patients, different hospitals have different arrangements. Practically everywhere, however, a certain proportion of the goods goes to the patient to do with as he pleases, while the remainder goes to the hospital for use in the wards or for sale to purchase more materials.

Because the provision of varied and congenial occupation for the mentally ill is a relatively new thing, its great value is not thoroughly understood, but little by little it is becoming more and more appreciated. Under its technical name of ergotherapy it is now recognized as one of the foremost factors in the treatment of mental patients in all progressive institutions in this country and abroad.

HYGEIA
THE HEALTH MAGAZINE
Published by the American Medical Association
535 North Dearborn Street, Chicago

Plain Facts about Health and Disease

THE INHERITANCE OF SENSITIVITY

OF ALL our modern knowledge of scientific medicine probably the most difficult to explain to the public is the thing known as anaphylaxis, or hypersensitivity. Its manifestations are common in human observation. Sometimes an infant fed with a new food substance will break out with a general eruption of hives, have an asthmatic attack or respond in some other way to the new substance. This is a manifestation of allergy, or anaphylaxis. It occurs because the cells of the body have been made especially sensitive in some manner to the protein material contained in the food. Nowadays hay-fever and asthma, as well as many other conditions that affect the human body, are believed to be a result of hypersensitivity.

Investigators in the New York University and Bellevue Hospital Medical College have tried to find out whether or not such sensitivity is transferred to the infant from its mother. They found in the first place that it is possible in the human being and in the guinea-pig for such protein substances to pass through the placenta, or the tissue which attaches the child to the mother and through which the child receives its nutrition before birth. They found that the milk of the mother does not transfer any hypersensitiveness to the child, but that sensitivity can be transferred through the placenta. For instance, guinea-pigs injected with horse serum transferred to their offspring a sensitivity to the serum. This, however, did not extend to the second generation.

It has long been known that human beings could be made sensitive to various substances through the inoculation of such substances into the body or through rubbing such substances into the nasal passages. The new investigations reveal another route by which protein substances may be introduced into the body and produce sensitivity. The investigations indicate again the necessity for watching carefully the diet of the mother in addition to any medical procedures that may be carried on previous to the birth of a child.

CULT AND QUACK PRACTICES ABROAD

SHORTLY after the Civil War a German soldier lay sleeping with many comrades in a large tent. The tent was invaded by a little black and white striped animal whose presence is generally associated with a peculiar and nauseating odor. The German soldier awakened suddenly and sniffed deeply. Looking about, he murmured to himself, "Mein gootness, all de odders aschleep und I have to schmell it all." The situation is analogous to the world's attitude regarding some forms of cultist and quack practices carried on in the United States.

A recent bulletin from London indicates that an application was made to the London County Council to establish a massage parlor in which the tricho system of using x-rays for the destruction of superfluous hair was to be used. A hearing was held before the divisional medical officer of the London County Council, which considered so serious the risk of cancer developing through the repeated use of the x-rays that local authorities had to be warned of the danger. The application to establish the massage parlor for carrying out this system was refused.

The Bohemian thrust, a system of treatment resembling chiropractic, was known in Bohemia hundreds of years ago. Today the United States has practically all the chiropractors in the world. Occasionally others have set themselves up in foreign countries but their practice has either been prohibited by the authorities or they have practiced with but small success.

A recent note from Norway indicates that an American chiropractor has set himself up on one of the main streets of Oslo. He happens to be a former American soldier who, after the World War, was placed by our government in the Palmer school of chiropractic under the peculiar notion that that was an educational institution. Having graduated, if one can be said to graduate from the Palmer college, he departed for Norway to begin his practice. Apparently the fact that he had studied in the Palmer school at the expense of the United States government gave him a sort of official status in Norway, since the people of that country took it for granted that the United States government would hardly be likely to play one of its former soldiers so terrible a trick as to send him for study to an institution that was devoted to a wholly unestablished and ridiculous system of medical practice like chiropractic. Of course, the U. S. Department of Labor has discontinued this practice, but how will it ever answer in the future to the men who did study under its auspices in such institutions?

NEURASTHENIA

TWENTY years ago the term "neurasthenia" was merely a word with which any one who had a little-understood disturbance of the nervous system might be classified. Actually the word means a weakness of the nerves.

Today study of human psychology has practically resulted in the elimination of this term as a scientific diagnosis and has brought into medical use other terms that more definitely describe the conditions concerned. Thus psychoneuroses are mental disturbances that can be subdivided in various ways.

Few people actually have exhaustion of the nervous system and the few that do suffer with the complete effects of fatigue are said to have fatigue neurosis. The term "hysteria" is applied to those cases in which persons are convinced, because of some suggestion from outside influences, or of their own, that they suffer with certain complaints; it is understood that the complaints concerned can be removed by mental suggestion or persuasion.

Dr. Peter Bassoe, who has recently considered the subject, points out that determination of the causes involves investigation of the emotional constitution, particularly with relationship to fear or anxiety, and for this group the modern term "anxiety neurosis" is desirable. Sometimes this condition is associated with actual disease of the internal organs, so that the well qualified physician will study his patient not only from the point of view of the disturbed organ but also as to the effects of the disease upon the patient's mentality.

Dr. Bassoe concludes his consideration of the subject with a highly philosophical statement worthy of profound consideration:

"While it is true that some people are born to neuroses, a great many more have neuroses thrust upon them on account of unsuitable and also very complicated environmental influences, yet with growth of intelligent interest in and facilities for wholesome education in the widest sense of the term the human race will ultimately learn to conquer the neuroses as it has so many of its other visible and invisible enemies."

PITTSBURGH'S MEDICAL MEMORIAL

IN SCHENLEY PARK in Pittsburgh stands a statue that serves as a memorial to the physicians of the vicinity who served and who gave their lives in the World War. It bears the inscription,

NON SIBI SED PATRIAE
This Monument
in Honor of
Four Hundred Fifty Members
of the
ALLEGHENY COUNTY MEDICAL SOCIETY
who served in the World War
1914-1918
Is presented and affectionately dedicated
by their colleagues
HONOR EST PRAEMIUM VIRTUTIS

Two tablets list the names of the men who served. The figure reproduced herewith is significantly appropriate. The sculptor himself, Signor G. Moretti, explains its significance.

"I selected the figure of a woman, young, mature, strong and vigorous, to represent the spirit of the service of these men. She is the ideal of humane service—of mothering and protecting the health of humanity.

"In her left hand she carries the Caduceus, symbol of medicine, the staff of Mercury entwined by two serpents. The staff represents strength; the serpents, wisdom, and the wings, speed.

"In the face of the figure I have tried to express the dignity, noble gentleness and devotion that we associate with

those from whom we expect the safeguarding of our health. She has the beauty of glad service to humanity. She is moving rapidly but with dignity, conscious of the responsibility she represents. In contrast to the flying drapery is the steady, even flame of the torch.

"Light is the most impressive and symbolic word in our language. The first day of creation, God said 'Let there be light.' Light is the opposite of Darkness. Disease, ignorance and misery are the companions of Darkness. The most appropriate symbol of the service of our physicians and surgeons is this noble Light Bearer."

THE MAGIC OF NUMBERS

IN THE beginning when practically all healing of disease was faith healing, magical and mystical formulas played a great part in the methods used by priest healers to control disease. In the formulas numbers were conspicuous, perhaps because the idea of increasing and lessening the quantity had a particular appeal to the person who might be suffering pain or perhaps high fever. No doubt many of the earliest systems of counting arose from the attempts to number the portions of the human body. The ancient Hebrews had a prayer enumerating the bones of the body.

In practically every system of magic, the figures 3, 7 and 9 are of great importance. For instance, it is a common superstition that pneumonia always undergoes a crisis on the seventh or ninth day, that children born in the seventh month are supposed to have a better chance of living than those born in the eighth month, that the body renews itself every seven years, that the seventh son is bound to make a great physician and, of course, that the seventh son of a seventh son is nothing short of a great magician.

Actually there is no reason at all for the belief relative to the crisis of pneumonia coming on the odd day, although the time is approximate. Children born in the seventh month do not have a better chance to live than those born in the eighth month. The body is constantly growing and throwing off dead tissue, but the renewal is a steady process and does not take place all of a sudden every seven years. The seventh son usually has a tough time because of six older brothers.

The climacteric, it is pointed out by Dr. Dan McKenzie, has special significance because it represents a multiple of seven, every vital period being seven years and the sixty-third year, which is nine times seven, being the grand climacteric. The seventieth year constitutes the end of the period that biblical legend assigns as the years of man.

In mythology and in all counting systems the number 3 and all of its multiples have special virtues. There were three graces, three furies and three fates. Most healing charms were recited three times and most remedies made up in three portions in the magical pharmacopeia. The old Anglo-Saxons had a charm against spasms of the heart.

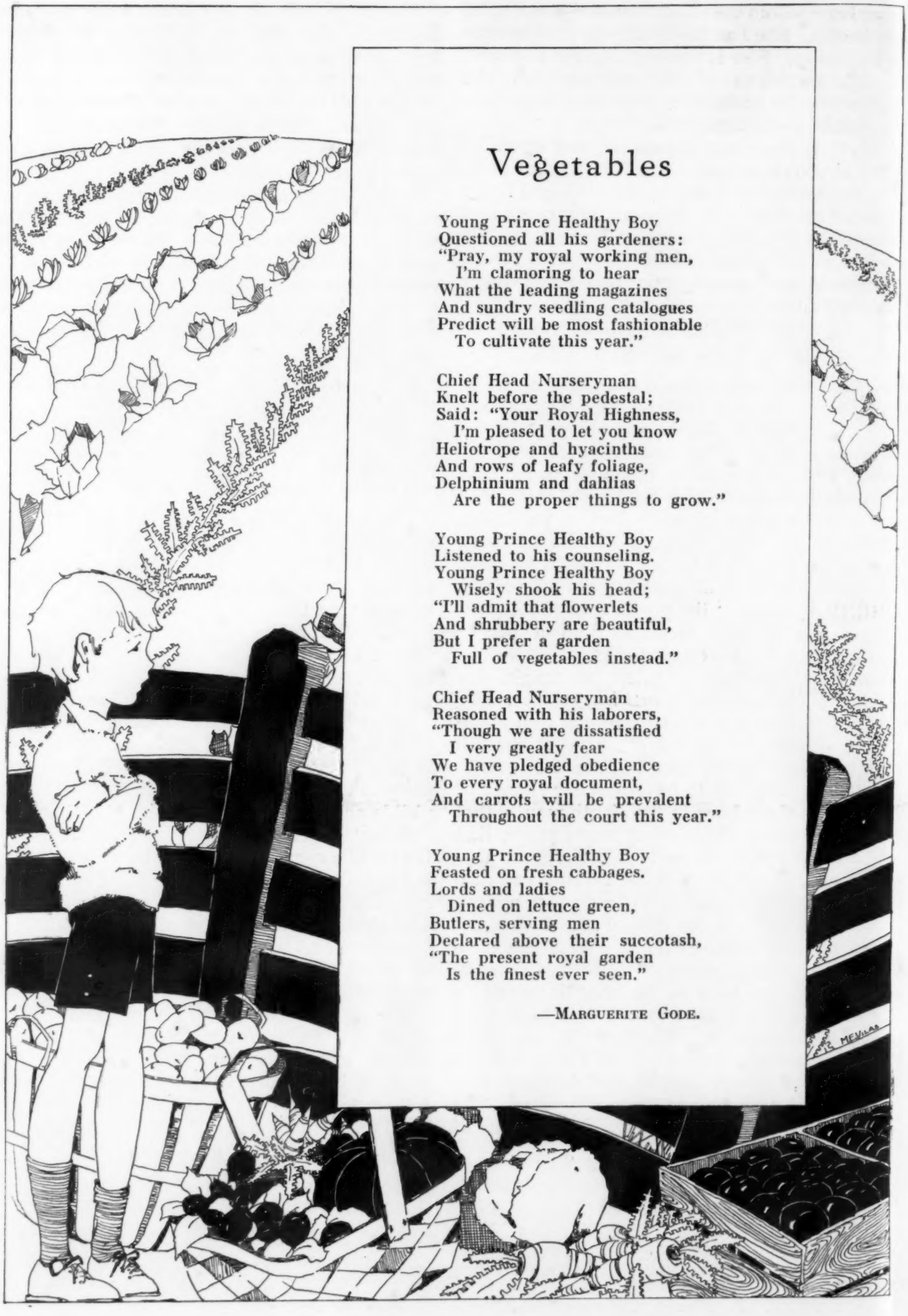
> If wens (spasms) pain a man at the heart, let a maiden go to a spring which runs due east, and ladle up a cupful, moving the cup with the stream, and sing over it the Creed and Pater Noster, and then pour it into another vessel and ladle up some more, so as to have three cups full. Do so for nine days; soon it will be well with the man.

The number 13 seems to go back to the ceremony of the Eucharist for its peculiar significance. In Cuba there is the strange notion that thirteen cloves of garlic at the end of a cord worn around the neck thirteen days will prevent jaundice. At midnight of the thirteenth day the wearer takes off the necklace, throws it behind him and runs home without looking back. Thus 13 is not always an unlucky number.

Every one knows the counting out system used in folk-songs and in charms. One begins usually by mentioning the number of warts or pimples or other countable disturbances that are visible and counts them out one at a time.

A magical cure for styes used in England in the middle ages involved the use of a hair from a tomcat's tail. On the first night of the new moon, a hair from the tail of a black tomcat was stroked over the stye nine times. Indeed, there was also the superstition that three drops of blood from the tail of a black cat would cure epilepsy.

The human being craves magical demonstrations. He is ready in time of illness to believe almost anything that may be told to him. It is not surprising therefore that incantations involving the use of numbers sung in a rhythmical manner should have fascinated his mind and suppressed his reason.



Vegetables

Young Prince Healthy Boy
Questioned all his gardeners:
"Pray, my royal working men,
  I'm clamoring to hear
What the leading magazines
And sundry seedling catalogues
Predict will be most fashionable
  To cultivate this year."

Chief Head Nurseryman
Knelt before the pedestal;
Said: "Your Royal Highness,
  I'm pleased to let you know
Heliotrope and hyacinths
And rows of leafy foliage,
Delphinium and dahlias
  Are the proper things to grow."

Young Prince Healthy Boy
Listened to his counseling.
Young Prince Healthy Boy
  Wisely shook his head;
"I'll admit that flowerlets
And shrubbery are beautiful,
But I prefer a garden
  Full of vegetables instead."

Chief Head Nurseryman
Reasoned with his laborers,
"Though we are dissatisfied
  I very greatly fear
We have pledged obedience
To every royal document,
And carrots will be prevalent
  Throughout the court this year."

Young Prince Healthy Boy
Feasted on fresh cabbages.
Lords and ladies
  Dined on lettuce green,
Butlers, serving men
Declared above their succotash,
"The present royal garden
  Is the finest ever seen."

—Marguerite Gode.

"JUNIOR"

JUNIOR AND MR, GERM

BY

HOWARD W, HAGGARD

"MR, GERM"

CHAPTER VII

The Terrible Animal Turns Out to Be an Old Friend

THE animal coming toward Junior had four great legs. Each leg seemed as big around and as high as the steeple of a church. On the top of those legs was the animal's great body, as big as a whole brick building. Its tail seemed to Junior to be as long as a train of cars.

And its head! My, what a head! It was as large as a small house. The animal's mouth was right where the front door of the house should be, but it was bigger than a front door. It was more the size of a front porch. The mouth was open, too, and Junior could see teeth as big as the posts that hold up the roof over a porch. The wet tongue that stuck out from that wide mouth looked to Junior the size of six great, thick, red mattresses all piled together.

MR, GERM'S FAMILY- SITTING ON, FIDO'S TONGUE,

The animal was really very terrible to see. When it lifted up its feet and put them down again the ground shook.

"Hooray! Hooray!" shouted Mr. Germ. "He is coming our way. That is fine."

Junior was too badly frightened to say anything or do anything except to hold on to the blade of grass. Mr. Germ jumped up and down and waved his arms toward the animal. He acted exactly as if he were calling it to come to him, though of course he was too small for the animal to see.

When the animal was nearly on top of Junior it stopped. It stood looking across the grass at something on the other side of the yard. It was so close to Junior that he could feel its hot breath. When the animal breathed out, a great wave of hot air bent over the blade of grass to which Junior was hanging. When it breathed in, the wind came from behind Junior and blew the grass the other way. Junior swung back and forth with the blade of grass; he felt as if he were on the mast of a boat riding over rough waves.

Junior was beginning to wonder if he would become dizzy from the swinging and fall off the blade of grass. He did not know which would be the better—to have the animal walk on him or to fall off the blade of grass. Then he remembered the germs on the ground below and decided to stay where he was if he could.

Suddenly the animal jumped. He jumped right on top of Junior. One big foot came tumbling down beside the blade of grass to which Junior was hanging. It seemed as if a building were tumbling down all around him. That great foot missed Junior and landed on the germs on the ground below. That was the last thing Junior saw for a little while. He closed his eyes tightly and hugged both arms about the tip of the blade of grass. A great rush of wind nearly swept him off as the animal went by. The animal was leaving.

All was still again except for one thing. That one thing was Mr. Germ. He was crying. He was crying as if his heart would break.

"Oh! Oh!" sobbed Mr. Germ. "Please come back and take me. I want to go with you. I do not want to stay here. I want my dinner."

"What!" cried Junior. "Do you want to go with that terrible animal?"

"Yes, oh, yes!" sobbed Mr. Germ. "He took all my children and left me behind!"

Junior looked down at the ground. Sure enough, all of the germs were gone.

"Where are they?" asked Junior.

"Gone," answered Mr. Germ.

"I can see that," said Junior; "but where have they gone? Where are they now?"

"They are very, very lucky," sobbed Mr. Germ, for he was still crying. "They are on the bottom of that animal's foot riding away with him and I want to go too."

"Won't they get hurt?" asked Junior. "I should think that they would be crushed all to pieces when the animal puts its feet down."

"Oh, no!" replied Mr. Germ. "His foot is very rough and they are in all the open places having a fine ride. But do not bother me. Please keep quiet. I am so disappointed that I am angry."

Mr. Germ had stopped crying now and was frowning. He began jumping up and down once more, waving his short arms and calling to the animal as loudly as he could.

"Here, Fido! Here, Fido! Fido—Fido come for me!" he called.

Junior laughed at the idea of calling a terrible animal like that Fido. Of course the animal could not hear Mr. Germ. It could not have heard him if he had been very close; not even if Mr. Germ had sat in the animal's ear and shouted as loud as he could. Mr. Germ kept right on shouting anyway.

"Here, Fido! Here, Fido, come for me!"

Junior laughed even louder. "Why," he asked, "do you call that terrible animal Fido? I think that is funny."

"Do you!" snapped Mr. Germ quite angrily. "Do you! Well, Fido is what you call him. That is where I learned his name."

"What?" cried Junior, even more loudly than Mr. Germ had shouted. "I call him Fido? I never saw that animal before in all my life; I never want to see him again either. What do you mean by saying I call him Fido? I do not!"

"But you do," said Mr. Germ. "You play with that animal all over the yard. That animal is your dog Fido!"

"My dog Fido? That is not Fido," said Junior. "Why Fido is no higher than that." Junior held his hand near his knees to show Mr. Germ just how high Fido stood. Then Junior smiled rather foolishly. He had forgotten how small he had become. He had forgotten that he had found it hard work to climb a single blade of grass. If Fido were no bigger than the space that he showed with his hands, Fido was very small indeed. The space was much less than even half the thickness of a blade of grass.

Junior laughed to think how funny it would be if Fido were no bigger than that. "Well," he chuckled, "if that was Fido I should like to see how big a man looks." And Junior laughed and laughed to think how terrified he had been of his own dog Fido.

JUNIOR'S BABY SISTER WAS SITTING ON THE GRASS,

"I do not see any man around," replied Mr. Germ. "If you will look over there though, you can see what a baby looks like. It is your baby sister."

CHAPTER VIII

Mr. Germ's Children Get on Baby Sister's Face

JUNIOR'S baby sister was sitting on the grass on the other side of the yard. What a strange baby sister she was! To Junior she looked so big that she seemed like the baby sister of a mountain. Her head looked as large as a house. Her round, blue eyes seemed as big as colored windows in a church. Each one of her yellow curly hairs was as big around as Junior's body; that is, as big around as Junior's body was now. Baby sister's smooth skin did not look smooth any more. No, indeed, her skin seemed as rough to Junior as the shingles on the roof of a house, even rougher.

Fido was bounding across the grass toward baby sister. He was wagging that tail of his, which seemed as long as a train of cars. Just imagine a train of cars being swung back and forth like that.

When he reached baby sister, Fido sat down on the ground. He lifted his front paw and licked it with his tongue. When he put his paw down on the ground again there was something clinging to his tongue. Mr. Germ's whole family were sitting on his tongue.

When Fido stepped on the germs they had held on to his foot. When he licked his foot they had taken hold of his tongue and stayed on it. There they were now sitting on Fido's tongue and waving their arms, laughing and shouting like children going to a picnic.

A terrible thing happened then. Baby sister put her arms around Fido's neck. Putting her arms around Fido's neck was not the terrible thing that happened next.

Fido licked baby sister's face with his tongue. That great red tongue went smack, smack over baby's face near her mouth. Baby sister pushed Fido away but it was too late.

The germs that had been sitting on Fido's tongue were no longer there. They had climbed off the tongue and on to baby sister's face. There they were in a ring all around her mouth. Each germ was smiling as happily as it could. The germs were saying to one another: "We have reached our dinner now."

It was really a terrible sight to see those germs sitting on baby's face. Junior climbed

to the very tip top of the blade of grass. He shouted with all his might to baby sister:

"Sister, sister, Fido left germs all over your face. Get them off quickly. Have mother wash your face. Sister—sister."

Baby sister did not pay the least attention to Junior. She did not even look his way.

"Oh! Oh!" cried Junior. "I must get those germs off right away." He forgot that he was on top of a blade of grass and took a step. One foot went out in the air. There was nothing under it. Then Junior remembered how small he had become. Quickly he seized the blade of grass and pulled himself back on it safely. "Oh! Oh!" said Junior, "how can I get to baby sister? I must —I simply must get those germs off her face."

He looked down at the ground below. It was a long way off. It would take him many minutes to climb down, then if he were down he would have to climb over the rocks and walk around the blades of grass until he came to baby sister. It would take him all afternoon and perhaps longer to get there. By that time it would be too late. The germs might find their dinner before that. Junior felt badly frightened indeed. All he could do was to look at baby sister. She could not see him. She could not hear him. He could not get to her. The germs around her mouth were moving about slowly as if they were hunting for something.

THE GERM WAS IN BABY'S MOUTH!

Junior had forgotten all about Mr. Harold Augustus Germ, who was on the grass with him. Now Mr. Germ spoke, and Junior stopped looking at baby sister and turned to him.

Mr. Germ was smiling. He seemed just as happy as Junior was sad. "Oh! Oh!" he said, "is that not lovely? My children are fortunate. Fido gave them a ride straight over to baby's face."

When Junior saw how happy Mr. Germ was it made him feel even more sad. For a long time neither Junior nor Mr. Germ said anything more. Junior watched baby sister, and wished and wished that there was some way he could get to her or that his mother would come and wash her face. When he thought of his mother he looked toward the house and saw her through the open door busily working in the kitchen. She was singing happily. Junior could not see how any one could be happy when the germs were on baby sister's face.

Again Junior had forgotten all about Mr. Germ, who was on the blade of grass with him. He would probably not have remembered him at all if he had not felt the blade of grass shake. He looked at him to see what Mr. Germ was doing.

Mr. Germ was jumping up and down, smiling and clapping his hands. It was his jumping that had shaken the blade of grass.

Mr. Germ was looking at baby sister. Junior looked too. As baby sister played she wiped her face with her hand and then put her finger in her mouth. One of Mr. Germ's children had taken hold of her finger as it passed over her face. The germ held tightly to the finger and when baby sister put it in her mouth the germ had gone in too. At least it looked to Junior as if the germ had gone in. There was nothing that Junior could do to stop it.

Oh, dear, thought Junior, if only I were big again, I could go across to sister and wash her face and hands and keep her dirty finger out of her mouth.

There was nothing he could do now. Yes, there was; there was one thing he could do. He could get rid of one germ. He could get rid of the germ that was on the blade of grass with him. He reached down and picked up Mr. Germ. Mr. Germ did not stop smiling. He was still thinking of how nice it was that one of his children had got into baby sister's mouth. It was nice and warm and moist there. That germ could raise a large family in her mouth. After he had raised that family everything that baby sister touched with her mouth would have germs on it. The germs in her mouth would come out and stay on the things she touched.

Junior thought of all these things as he was lifting Mr. Germ. He was going to throw him down on the ground below. Junior looked at Mr. Germ and saw that he had stopped smiling. Mr. Germ was looking across the yard toward baby sister.

"I am glad," said Junior, "that you are at last sorry that that child of yours got in my baby sister's mouth."

"Sorry," cried Mr. Germ. "I'm not sorry, I'm glad. What makes me sad now is to see that lady going toward your sister. She might wash the baby's face and rub off all of my children."

"What!" shouted Junior, "a lady coming? Where? I do not see her. Oh, yes, I do. Hurrah! Hurrah! She will wash baby's face, and get rid of those terrible germs. Oh, hurry before more get in baby's mouth!"

Junior was so pleased that some one was coming to take the germs off of baby sister's face that he forgot all about throwing Mr. Germ on the ground. Instead he put him down again on the blade of grass.

New Books *on* Health

Reviews of Interest to General Reader, Parent and Teacher

MOTHER AND UNBORN CHILD

By Samuel Raynor Meaker. Pp. 198, with 22 illustrations. Price, $2.50. Williams & Wilkins Company, Baltimore, 1927.

SMALL booklets such as those furnished by the American Medical Association, the Children's Bureau, Washington, D. C., or the Chicago health department give the average woman all the information she needs regarding pregnancy. A smaller group consisting for the most part of college women and teachers desire a more detailed knowledge of the medical aspects of pregnancy and labor. For these, Dr. Meaker's book, "Mother and Unborn Child," is one of the best that has been written.

Every effort to improve the conditions of pregnancy and childbirth is immensely worth while not only in benefit to the mother but also in the development of a healthier generation of children. Doctors understand more clearly than ever before the difficulties and dangers of pregnancy and know how to avoid many of them.

Dr. Meaker's book is not intended to take the place of any doctor's personal advice. It gives the many details of information that require more time than is possible in the consultation room.

The book is written in a clear, concise style and furnishes interesting reading for any woman who wishes detailed information regarding reproduction. The author advises the modern woman in vain, however, when he suggests wool underwear with high necks, long sleeves and ankle length legs for winter wear.

C. H. Davis, M.D.

TROUBLES WE DON'T TALK ABOUT

By J. F. Montague, M.D. Pp. 248. Price, $2. J. B. Lippincott Company, Philadelphia, 1927.

THE nature of mankind has been to view with much modesty discussions of the body orifices. Nevertheless, the disease conditions that may develop about the orifices that take care of the body's excretions may be more serious and sometimes far more humiliating than those easily visible to the world.

Dr. Montague presents some simple facts relative to these conditions and in general some good advice as to their care. He is, however, somewhat too inclined to frighten his readers with threats of cancer, and he inclines to the view that most rectal troubles require the attention of a rectal specialist. The book is written in language that the public can understand and in general is a most useful volume.

Morris Fishbein, M.D.

GROWING UP

By Karl de Schweinitz. Pp. 111. Price, $1.75. The Macmillan Company, New York, 1927.

THIS book seems to be among the best of the books recently produced to give to children the "facts about reproduction." It is handsomely printed, beautifully written, marvelously illustrated. A 12 year old girl and an 11 year old boy listened to the reading and looked at the pictures with fascination and seemed to derive from the story only the truth and the beauty. However, "Growing Up," is a fact book in every sense of the word and many parents may consider some of the statements too direct or too bluntly made.

Photo by Leuders

Easter lily illustration from Dr. de Schweinitz' book "Growing Up." "Count six dark tops growing on threadlike stems," says the author. "This is the yellow pollen. The longest thread with the white knobby top is the pistil. It leads to the ovary inside the lily just above where the flower joins the stem."

The jacket contains in two sentences an editorial that is basic to the entire subject. "Sex education is not so much a matter of words as of attitude. This book will be most useful when it confirms a point of view already revealed by the parents and the life of the home."

Morris Fishbein, M.D.

THE PRINCIPLES OF SANITATION

A Practical Handbook for Public Health Workers. By C. H. Kibbey. Pp. 354, with 34 illustrations. Price, $3.50. F. A. Davis Company, Philadelphia, 1927.

THE environmental phase of public health is treated in this book, which brings together a series of lectures by the author.

Although much of the material should be helpful to health officers, it is intended primarily for sanitary inspectors, social workers, school teachers and public health nurses. The sanitary inspector, who is often not well equipped for his work, will find the book helpful.

The text is well arranged, concise and fairly free from overtechnical terms. The subjects covered are communicable diseases, rural sanitation, food in its relation to disease and a study of the prevention of occupational disease.

It is highly desirable that sanitary inspectors become more thoroughly familiar with the relation of environmental improvement to the control of communicable diseases, but it may be questioned whether much of the subject matter dealt with in this volume does not belong to the physician and the health officer rather than to the sanitary inspector.

The value of this book as a source to which the sanitary inspector may go for information pertaining to his work is beyond question, but it should not be used to stimulate the inspector to enter public health fields not his own.

R. G. Leland, M.D.

News *and* Views

From the

FIELD OF HEALTH

MEDICAL CENTER OPENS FIRST UNIT

The first unit of New York's new medical center, for which planning and construction began seven years ago, was opened March 16. The first building houses the Presbyterian Hospital, the Sloane Hospital for Women and the Squier Urological Clinic and has an ultimate bed capacity of 1,177.

Anna C. Maxwell Hall, the residence for the Presbyterian Hospital Training School students, was occupied a few days before the hospital opening. This dormitory has living quarters for 360 pupil nurses with a large swimming pool, recreation hall and other modern features.

NEW YORK AUTHORITIES FIGHT MEASLES

A campaign to save the lives of the many small children who die in the measles epidemic that New York City has come to expect every two years has been started by a number of health agencies.

A million leaflets describing early symptoms of measles and urging prompt medical attention are being distributed to parents. Nearly 1,000 children died of measles and complications in 1924 in New York.

"Do not expose children to measles," urge the health authorities. "Remember, too, that they stand a better chance of coming through measles unharmed at the age of 6 or later, than when younger. If a child has a slight fever, with symptoms of a common cold, and watering eyes that are sensitive to light, put him to bed, call a doctor and keep everybody away from him."

UNIVERSITY SPONSORS NURSERY SCHOOL

Solutions to a few of the multitudinous problems of rearing children are sought in a new department of instruction and research at the University of California, directed by the state department of education.

Twenty-five children have been enrolled in a nursery school and a score or more of studies of mental and physical traits have been started by the staff.

NEW HOSPITAL TO TREAT CURABLE MENTAL ILLS

A distinct gap in the provision for care of persons with nervous and mental disorders has been filled by the new Hillside Hospital, recently opened at Hastings, N. Y., by the Jewish Mental Health Society. Mental and nervous diseases have increased beyond the capacity of hospitals to care for them and facilities for prevention are extremely limited.

The Hillside Hospital will concentrate on cases of incipient and curable mental disturbances. The building, formerly a private residence in the Westchester hills, has been equipped with modern appliances for treatment and can accommodate twenty-five patients.

STATES FORM WATER CONSERVATION BODY

Nine eastern states have recently entered into an interstate stream conservation agreement for joint sanitary control over the waterways of the states, the bulletin of the Maryland department of health states.

Through the new plan, which is to be administered by an advisory board made up of the chief engineers of the several states, cooperative action is obtained for the abatement of the pollution of waterways in any one of the states when the pollution is harmful to any of the adjacent or downstream states.

Pennsylvania, New York, Ohio, West Virginia, Kentucky, Indiana, Illinois, Tennessee and Maryland are the states participating in the agreement. It is the first effort in this country to establish a uniform program for the control of interstate bodies of water so as to provide adequate water resources for municipal drinking supplies, for industrial uses, for recreational purposes, for power requirements and for navigation.

REPORTS PREVALENCE OF VENEREAL DISEASE

Reports collected by the U. S. Public Health Service from a large number of cities show that from 1 to 2 per cent of the population is constantly under treatment for venereal disease.

Surgeon General Hugh S. Cumming, in a report recently submitted to Congress, emphasizes the fact that there are undoubtedly many cases that are not under treatment so that the total number of cases would be much larger.

Venereal disease clinics under control of state health departments during the last nine years have given more than 16,000,000 treatments to more than 1,000,000 patients. But facilities for treatment are still extremely inadequate, especially in rural districts, the survey revealed.

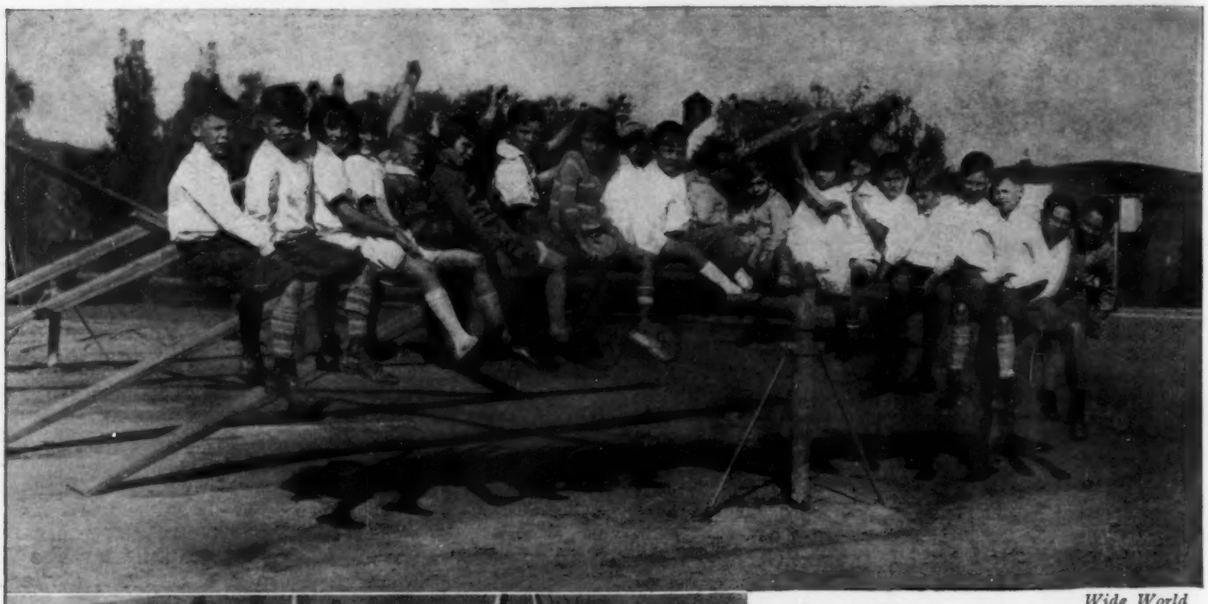
PLAN FOURTEENTH ANNUAL NEGRO HEALTH WEEK

Tuberculosis clinics, health conferences for babies and preschool children and public discussion of such topics as home hygiene, campaigns against flies and mosquitoes, sanitation and balanced diets form part of the program for the fourteenth annual negro health week, which is to be observed during the week of April 1 to 8.

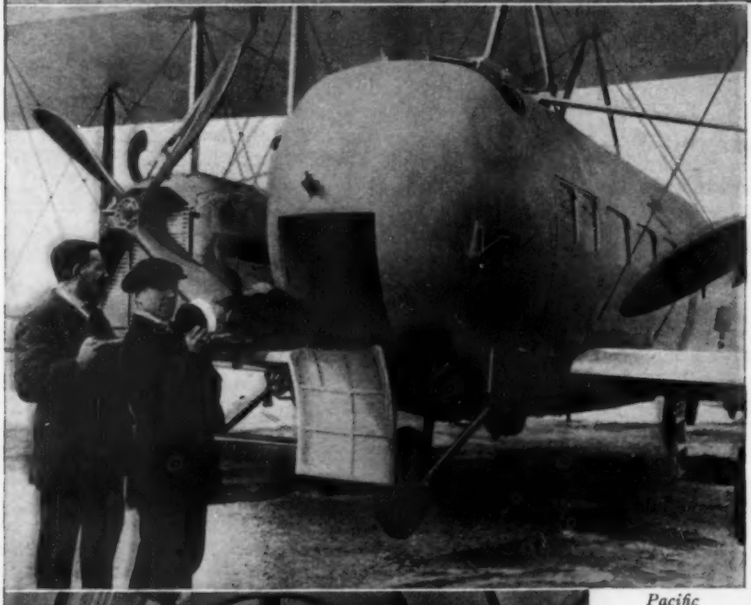
The negro health program has been arranged by the U. S. Public Health Service in cooperation with several national negro organizations, notably the Tuskegee Negro Conference and the National Negro Business League.

TEACH SANITATION IN MAINE SCHOOLS

Maine high schools are teaching the science of sanitation as part of the course in agriculture. A special feature is instruction in the building of septic tanks. The boys learn not only the construction of the tanks, but the chemical principles on which they work. In addition they are learning how to prevent pollution of streams and many are attacking the problem of sanitation in their own homes. Movements like this are especially valuable in the prevention of typhoid, says a Maine newspaper.



Wide World



Pacific and Atlantic

CALIFORNIA TWINS

Birthdays are scarce among this seesaw full of rollicking youngsters. They are ten sets of twins snapped at a grammar school in La Brea, Calif.

AIRPLANE AMBULANCE

Specially equipped airplanes are being used in many parts of the world to transport sick and wounded. This plane is in use by the British government in Iraq.

Pacific and Atlantic

CARRIES PATIENTS IN COMFORT

Two stretchers are provided in this plane equipped for medical service. The sick passenger is passed through a tunnel in the nose to the spacious cabin of the Vickers-Vimy, where he rests in comfort during his trip to a hospital.

Pacific and Atlantic

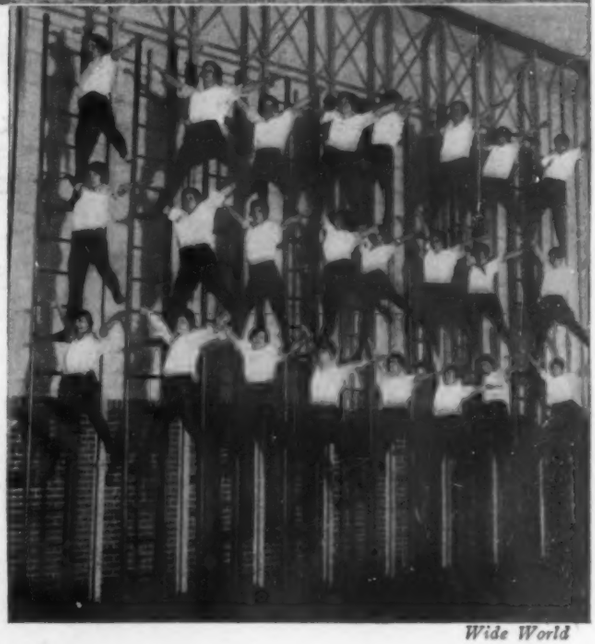
GIRLS USE FOILS

Girls of Simmons College have added fencing to their accomplishments and are becoming expert with the foils.

Wide World

RECORD LEAP

Gordon Royal, Kansas athlete, made a new record when he took a broad jump over this human bridge of fourteen Boy Scouts.



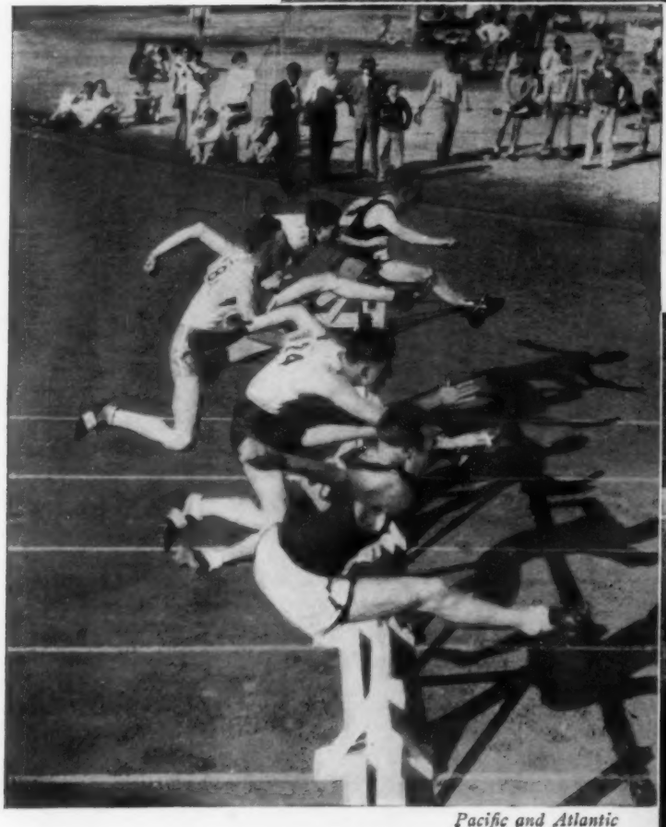
Wide World

GYM CHAMPIONS IN TRAINING

This zigzag pattern of girls is made by the Philadelphia Turners gym team, five times U. S. champions, practicing for the international turnfest to be held in Cologne, Germany, next July.

SPRING FEVER SET THESE EMBRYONIC GARDENERS to digging and planting with zest.

Wide World



Pacific and Atlantic

"I SEE HIM JUMP BEFORE ME——"

These California athletes are hard upon their shadows as all the contestants in a 120-yard hurdle race sail over the bars at the same time.

WHEN CALAMITY STRIKES

"Splint 'em where they lie," is the surgeon's advice. When in doubt about a fractured limb, splint it anyway. Handkerchiefs, a piece of board or even strapping one leg to the other keeps the leg from shortening, saves the bone from jars and the patient from shock.

Wide World

Questions *and* Answers

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed.

"Dislocation" of Larynx

To the Editor:—Please tell me if there is any possible way to cause the larynx to go back into its correct position. It seems to have gone out of place some time ago when I was bending backward. Would a chiropractor be of any help? J. S., Wisconsin.

Answer.—We never heard of the larynx being put out of position, unless the dislocating force was so violent as to do harm to the larynx itself. It is not probable that so-called chiropractic treatment would be of avail in any trouble of the larynx.

Climate and Tuberculosis

To the Editor:—A person with advanced pulmonary tuberculosis, now in comparatively arrested condition, has been taking "the cure" in Colorado for a period of three years. In your opinion would it be dangerous for such a person to take up a residence in Buffalo, N. Y., or the vicinity, provided a strict adherence to regimen was continued and a quiet life in a small suburb led? There seems to be a well established idea that the only safe place for a tuberculous person is in one of the plateau states of the west. C. H. T., New York.

Answer.—Much depends on how the patient in the higher altitudes has been taking his cure. If he has been as strict as he would have been in the lower levels where he has not the advantages of dryness and rarer air, he may, if he has attained a "cure," return to the lowlands.

In the so-called health climates, unfortunately the patient relies too much on the climatic advantages and is more or less careless; consequently, as a physician has said, "he can do more fool things and get away with them than he can at home." His recovery is therefore more apparent than real. Such a patient is likely to break down when he returns to his home in the lower and relatively damper country. But, if he has observed the rules of the cure in the health climate, he can achieve a cure and remain cured in any climate. Vigilance is always necessary, however, for a person who has had tuberculosis to avoid a relapse.

Heredity in Cancer

To the Editor:—Is cancer hereditary? Is there any health association whose efficiency in regular examinations can be recommended? J. H. H., Michigan.

Answer.—It has been definitely shown by long continued, reliable studies that cancer in mice is distinctly hereditary. To what degree the factor of heredity is involved in cancer in the human being, there is wide difference of opinion. Some investigations are under way along this line at the present time.

Any good general practitioner of medicine should be competent to make periodic health examinations, and it is much better to have it done by him than through the intervention of any health association.

Hearing Devices

To the Editor:—Has the American Medical Association information as to whether or not what is commonly known as catarrhal deafness can be cured or hearing improved in any degree? Can head noises be lessened so as to make ear phones more serviceable? My deafness is of several years' standing.

G. S. H., Michigan.

Answer.—Hearing devices differ so widely, and it is so important that the particular device be adjusted to the cause and the nature of the deafness in each case, that the only way in which the proper device can be secured is through a competent physician who has carefully examined and studied the character of the deafness in the particular person.

Some cases of catarrhal deafness can be cured; a good many can be arrested, and a few continue to grow worse in spite of the most improved treatment. The same is true of head noises.

Ear Plugs

To the Editor:—Some time ago I read about rubber ear plugs for people who could not sleep because of the noise in a large city. Where could I buy them?

E. S., Connecticut.

Answer.—Two kinds of plugs for people who cannot sleep because of noises in a large city are used: antisound plugs, sold by reputable instrument makers; and soft wax, which is molded to close the orifice. The latter is much used by the French.

All such contrivances are to be recommended only in extreme cases and ought not to be used habitually for obvious reasons. Using cotton in the canal may give some protection.

Constipation

To the Editor:—Is any real good to be derived from taking yeast in cases of chronic constipation? I have followed a well regulated diet, but the condition continues.

L. W. W., Colorado.

Answer.—Some persons find yeast helpful as a laxative but many do not. In addition to diet and exercise, it is important to make a practice of going to stool at a regular hour every day, whether there is any inclination for bowel movement or not.

When these hygienic measures fail, it is well to have an examination by a competent physician to make sure that there is no organic trouble present that causes the constipation.

Yawning

To the Editor:—At times I have shortness of breath. I want to yawn continually. Sometimes I am not able to complete the yawn, which is annoying. I should like to know if any one else is bothered with this trouble and what the cause of it is.

T. R., California.

Answer.—Yawning is really a prolonged, exaggerated act of breathing, comprising a deep inspiration and a prolonged expiration. It is involuntary and in its fullest expression is accompanied by raising and stretching of the arms and legs and sometimes by an audible sound. As a rule, it is

an expression of fatigue and may be a sign of physical or mental exhaustion, such as may occur in fever, mental disturbance, debility or malaise from any condition. It occurs in animals when they are placed in atmosphere that is deficient in oxygen.

Yawning was formerly thought to be an important sign of disease, but is not so regarded at the present time, except in rare cases.

"Renewal" of Body

To the Editor:—How long does it take for blood to renew itself? How long does it take for the muscles and bones to be renewed? R. D., Illinois.

Answer.—It is not clear what the inquirer has in mind. Blood can be withdrawn from the body of a dog, for example, in an amount equaling from one third to one half of the total quantity of blood in the system. Within a few hours the amount of fluid in the blood vessels is practically back to normal, but it usually takes several days for the blood corpuscles to be restored to the normal amount.

Of course in the normal body the blood corpuscles are constantly being destroyed and replaced by newly formed corpuscles and the liquid part of the blood is undergoing a similar change. The rapidity with which this takes place varies greatly under different conditions and with different persons.

The same may be said of the muscles and bones. The old saying that the body is renewed every seven years has no foundation in modern knowledge.

Anacin

To the Editor:—My attention has just been called to the value of Anacin in relieving pain in dental work. I have been assured by one of the best dentists in the city that this product, which is an anodyne preparation, is not habit-forming, and that there are no known unfavorable after-effects from its use in relieving various neuralgia pains.

E. A., Oklahoma.

Answer.—The Anacin Company of Chicago has stated that the formula for its product is:

Acetphenetidin (Phenacetin)	3 grains
Acetylsalicylic Acid (Aspirin)	3 grains
Caffeine	¼ grains
Quinine Sulphate	¼ grains

Acetphenetidin (phenacetin) is a coal-tar derivative, with action similar to acetanilid. It is heart-depressing and habit-forming and has a definite action on the red blood cells.

Anacin originally was put on the market by a manufacturer of dental supplies that had as its president a dentist. A year or two ago this man declared that Anacin was the formula of a reputable Minneapolis physician (whose name he gave), and had been worked out by this physician and "his associates at the University of Minnesota Medical Department." Later the same man admitted that this statement was false and then declared that the Anacin formula was said to have been suggested by a number of prescriptions compounded by the Minneapolis physician previously referred to. In January, 1926, Anacin was reported sold to the Van Ess Laboratories, a "hair tonic" concern. Anacin has been advertised widely in newspapers and on billboards. During the past few years there seems to have been an attempt to get physicians to use this nostrum. We understand that it is used quite widely by dentists.

Weak Ankles

To the Editor:—My little girl, 5½ years old, has knock-ankles, the left ankle being much worse than the other. Can you tell me anything that would help this condition? I think I once saw some remedial shoes for such trouble advertised in HYGEIA. This weakness did not show up until the child was 2 years old. I have hoped she would improve as she grew older, but she does not seem to. S. B. C., Iowa.

Answer.—The condition is probably due to a weakness of the muscles holding up the inner side of the foot. This weakness may be due to a real paralysis or to a flabbiness of structure of the muscles. If due to the latter, ordinary good shoes should be worn, in which the inner margin of the heel and sole has been raised from three sixteenths to a quarter of an inch by a wedge of leather fastened under the regular sole. This tilts the feet toward the normal position. No further suggestions about shoes can be made without an examination of the feet.

Painless Tonsillectomy

To the Editor:—Kindly let me know as to the new and painless tonsillectomy worked out by a physician, who demonstrated his method before the Laryngological Society. A. G. B., New Jersey.

Answer.—Inquiry about the alleged new and painless tonsillectomy worked out by a physician and exploited, as we are informed, in an unprofessional manner, reveals that there is nothing new about this treatment. A device that secures the constriction of the blood vessels and the coagulation of the blood in the vessels has been used for some time in operations on hemorrhoids and other conditions. It is a surgical method and in many cases has no advantage over the methods long practiced successfully in the removal of tonsils.

Tularemia

To the Editor:—In HYGEIA for January, there was an article on the rabbit disease known as tularemia. In my hunting and fishing trips into Northern Canada I come in contact a great deal with the large snowshoe rabbit of that country. Recently some disease attacked these rabbits and almost exterminated them. In a recent trip of more than six weeks I saw only one rabbit. The guides say this happens every so often and then the rabbits start to increase again. I should like to know whether there is any danger, provided these rabbits had tularemia or some other disease, of catching the disease from the rabbit skin. I have recently had some rabbit skin robes made in that country. These are the lightest and warmest robes that can possibly be made and are of the type that have been used for years by the Indians and by the Hudson's Bay trappers. However, I do not care to use mine if there is any danger from the fur or hide. R. H., Illinois.

Answer.—Snowshoe rabbits of Montana and the surrounding states, jacks of our western states, and cottontails of our eastern states are all susceptible to tularemia and are found sick or dead of the disease in nature.

The disease has not been recognized in the snowshoes of Canada or Alaska, nor in the varying hares of New Brunswick, although periodically some fatal disease of rabbits sweeps those areas.

No reports of the infectiousness of tularemia in a cured rabbit skin made up into a robe, of rabbit skins made into coats or of rabbit fur made into felt have been received. The likelihood is that the infection is too short lived under the conditions mentioned to be a source of danger to the wearer.

The greater question is whether tularemia is the cause of the rabbit epizootics described. If so, the certainty of infection of man should have caused reports of illness in those who skinned the rabbits. A slowly healing ulcer on the hand, a persistent swelling in the armpit, and fever would have incapacitated such skinners for a month or two, and their blood serum would contain the unmistakable agglutinins.

Determination of the presence of tularemia in rabbits cannot be made with certainty from related accounts of the presence of epizootics among them. Specimens must be collected in a certain way. Spleens of sick rabbits or of those just dead should be placed in pure undiluted glycerin and mailed to the director

of the Hygienic Laboratory, U. S. Public Health Service, 25th and E Streets, N.W., Washington, D. C.

The practicability of this procedure has been amply verified by the demonstration in Washington of the identity of Ohara's disease of rabbits and man occurring in Japan and tularemia occurring in the United States.

Sciatica

To the Editor:—Please state what is necessary to effect a cure of sciatica. H. A., Missouri.

Answer.—Sciatica is a neuralgic pain in the back of the thigh and leg due to an inflammation of the great sciatic nerve, which runs down the back of the thigh into the leg. It might be the result of a blow or a strain but is more commonly caused by infection or some toxic agent. The most effective treatment is to discover and relieve the cause if that is possible.

For the relief of the pain, various methods are available. It is for the physician to decide which is the most suitable for a particular case. Local heat, counterirritants by plasters, cautery and internal remedies for the relief of pain, are all helpful at times.

Veal and Beef

To the Editor:—Is there any difference in the food value of veal and beef? W. M. H., Tennessee.

Answer.—In general, veal contains a larger percentage of water than beef, but the various cuts of veal or beef vary so considerably in composition as to the percentages of water, protein, starch and fat that it is not possible to give a general statement. Veal is not so readily digested by some persons as is beef, but for most persons it is a matter of choice. Either is wholesome as a food.

Excessive Flow of Saliva

To the Editor:—I am suffering from an excessive flow of saliva, which causes me to "sputter" when I talk to any one. This might sound humorous, but I assure you it is not because I find it impossible to hold a position for more than two or three weeks. Is there not some preparation that I can use to dry up my mouth? If not, cannot this condition be corrected by an operation? H. C. D., New York.

Answer.—It is difficult to state just what causes the excessive flow of saliva that is noted in some persons. When any food that is slightly sour, such as lemon juice, orange or grapefruit juice, is taken into the mouth, there is at once a great outpouring of saliva.

All sour foods or, rather, foods with a sour taste might be omitted from the diet for a time. In the second place, the family physician should be consulted to see whether he considers it advisable to take a certain amount of a drug that will lessen the flow. Any drug, of course, should be used only on the advice of the doctor, both as regards the dosage and the frequency. It is possible so to regulate its use that the secretions of the body may be diminished. One must not carry it to the point of causing extreme dryness of the throat, which is often much more distressing to the patient than was the presence of the excessive saliva.

Bow-Legs; Radiation

To the Editor:—1. What course would you prescribe to cure a slight case of bow-legs? Would it be advisable to take special exercises for the legs, buy some sort of straightening braces, or wear something in the shoe that would tend to straighten the position of the foot on the ground? 2. I should also like to know whether I can obtain apparatus for home use, at a moderate cost, that will stimulate the suprarenal and other glands. I have read that the gamma rays will do this, and I should like to know whether a machine is obtainable at a moderate price that will emit the gamma ray, and is practical for home use. I should also like to have a machine that will emit the violet ray, as I am confined to an office for long hours during the winter and do not get a chance to come in contact with the rays of the sun. Please give the relative values of the beneficial effects of the gamma ray, violet ray and other rays. 3. I am also interested in the glands, and should like for you to recommend some books on this subject that I can obtain at popular prices. E. M., Texas.

Answer.—1. The treatment of bow-legs depends on the age of the patient. In infants and very young children, a good deal can be done by manipulations or appliances. If the condition is so extreme as to warrant it, operation is the only remedy.

2. As to the question about the various types of rays emitted from radioactive materials, the council on physical therapy of the American Medical Association writes as follows:

"Radioactive substances emit the following radiations: α-rays, β-rays and γ-rays. Gamma rays are similar to x-rays, both in wavelength and biologic effect. There is no cheap source of such radiations if the radiations are in sufficient intensity for therapeutic use. Radium costs about $70,000 per gram. The indiscriminate use of gamma rays in appreciable intensity would be very dangerous."

3. We know of no satisfactory book for the lay reader on the endocrine glands.

Spinal Puncture

To the Editor:—Why do surgeons sometimes make a spinal puncture? Could a surgeon tell if a person had a fracture, abscess or infection of the head, or injury to the brain from a spinal puncture? Is there danger to the patient from a spinal puncture or its after effects? Might the method result in blood poisoning or death? L. E. D., Alabama.

Answer.—Spinal puncture is one of the most valuable methods of diagnosis in certain cases. Properly done under the right conditions it involves little risk. Sometimes a withdrawal of the spinal fluid is followed by headache.

A fracture of the cranium or of any of the vertebrae, which resulted in hemorrhage into the space containing the cerebrospinal fluid, might cause the fluid obtained from the spinal puncture to be bloody or blood tinged. If the procedure is performed with clean instruments, the danger of infection with resulting death is practically nil.

Puffiness Under the Eyes

To the Editor:—Can you tell me of anything that will shrink a slight puffiness under the eyes, which is a family characteristic, and not due to any physical cause? It makes me look sleepy and gives the impression that I am up at all hours. Would tannin or tannic acid be of use? E. M., Indiana.

Answer.—Without personal examination it is quite impossible to give intelligent advice for the condition described. If it is a family characteristic and not due to any condition of disease, it would probably not be wise to make any attempt to remove it. It seems extremely unlikely that any application such as tannic acid or any other astringent would be of avail.

Stammering and Stuttering

To the Editor:—Is hypnotism a cause of stammering and stuttering? W. G. R., South Dakota.

Answer.—The term "stuttering" is used in two main senses: (1) for any sudden spasm or hesitation in speech rhythm, without external evidence of the internal mental struggle, and (2) for any type of block in the rhythm of speech. The term "stammering" is employed in three different meanings: (1) for

lisping and other speech defects due to anatomic defects; while (2) and (3) correspond to the two uses of stuttering. In this discussion stammering and stuttering are used synonymously for any degree or type of block in speech rhythm.

Hypnotism, per se, is not a cause. We know of no case due to it. It is conceivable that transient stuttering (stammering) may result from suggestions to this effect in hypnosis. Hypnosis may be used for experimental purposes to unearth the early personal history and possible hidden emotional experiences responsible for the origin or for treatment of the condition, with positive suggestions for correction of the disorder given in the hypnotic state.

Even if hypnosis is employed for purposes of treatment, reorganization of the personality must be brought about by all other possible measures. The reported miraculous, immediate cures by hypnosis are difficult to evaluate, since no case is known that has been diagnosed and studied by reliable observers.

Infection of Intestines

To the Editor:—What are the means of determining whether there is an infection in the intestinal tract? To what extent can the indican test be depended upon?

D. D. M., Californa.

Answer.—There is no way of determining the presence of infection in the intestinal tract except by examination of the intestinal contents. Even such examination may not always determine it. The presence of indican in the urine is no longer regarded as conclusive proof that there is intestinal infection of moment.

Tuberculosis and Overweight

To the Editor:—Last year I had an attack of pleurisy and had a slight fever for some months. I was in bed and had a suspicion of tuberculosis and have been advised to be careful of my health for two or three years. Since September I have gained 20 pounds. I have had some school duties as a principal and no outside work. An examination in December showed that I was in good condition but I am gaining and can see no use of putting on so much weight, though I do not wish to injure my health. My weight is being put on principally in my hips and arms. Would it be wise to diet or take certain exercises? What should I eat if I should diet? What type of exercise should I take?

C. R. H., California.

Answer.—Pleurisy is not infrequently associated with tuberculosis and occurs as the first sign of this disease.

It is not wise to diet when one has had tuberculosis except on the advice and under the direction of a competent physician. The best plan is to consult a physician again and follow his advice strictly.

Pores of the Skin

To the Editor:—In the course of my duties I have on several occasions intimated that the human body harbors no pores in the accepted sense, it being my contention that nothing enters the body through the unbroken skin. What are the facts?

L. B. S., Indiana.

Answer.—It is common to speak of the pores of the body, having reference to the openings of the sweat glands, which are sometimes quite conspicuous. However, these do not penetrate the skin and food and other substances are not absorbed through the skin.

A limited amount of absorption of certain drugs occurs, such as mercury, sometimes iodine and a limited amount of oil, but the idea that the skin can be nourished by putting nutritive substances on it or rubbing them into the skin, as is maintained by the "skin food" manufacturers, is wholly unsubstantiated by the facts.

Hard Water

To the Editor:—What effect, if any, does so-called hard water have on a person's health? What are the dangers of continued use and drinking of water rich in lime and salts?

L. F. L., Nebraska.

Answer.—A professor of physiological chemistry, a recognized authority in his field, states that he knows of no bad effects or dangers that are likely to follow the use of hard water, of such a degree of hardness that it would be at all drinkable.

Gluten Bread; Bran

To the Editor:—In just what way does gluten bread differ from whole wheat bread? Where can it be obtained? Does Kellogg's All-Bran have the same food value as an equal amount of whole wheat bread, or is it strictly a filler to facilitate bowel movement?

W. M. H., Tennessee.

Answer.—Gluten bread differs from the ordinary bread in containing a smaller percentage of starch, much of this having been washed out of the flour. Hoyt's Special Gluten Flour contains less than 5 per cent of starch and may be used, therefore, in cases in which more than that amount of starch is objectionable.

As a matter of fact, even in diabetes ordinary bread can be used in such quantity and in such a way as to be suitable for the patient. This is a matter for each physician to decide on the basis of his full knowledge of the sugar tolerance of the patient.

Kellogg's All-Bran has not the same food value, ounce for ounce, as has whole wheat bread. Bran contains a large percentage of indigestible residue and this is the basis for its use in constipation. Bran is irritating to the lower bowel of some persons.

Sore Throat and Other Remedies

To the Editor:—Is Tonsiline as good for sore throat and hoarseness as it is claimed to be? (It contains 7½ per cent alcohol.) What is a good remedy for sore throat? Do you advise taking Nature's Remedy pills for stimulating bowel movement?

A. W., Michigan.

Answer.—The bureau of investigation of the American Medical Association reports that Tonsiline and Nature's Remedy tablets are nostrums, the use of which is not advised to any one.

There is no one remedy for sore throat. It is of little avail to gargle or spray the throat, except for the temporary comfort it gives. The important thing when one has a sore throat is to have oneself examined carefully by a competent physician to find out the nature of the trouble and to be advised as to the best treatment.

Cures for Goiter

To the Editor:—Is there a good medicine for the cure of simple goiter? I am often bothered by nervousness and too frequent swallowing. What diet would you advise to prevent development of goiter?

A. W., Michigan.

Answer.—There is no medicine that will cure goiter. Minute doses of iodine given to young children in a so-called goitrous district is of value in preventing the development of goiter, but no remedy should be used by the adult except on the advice and under the direction of a physician. Certain forms of goiter are aggravated by such remedies.

Fruit vs. Vegetables

To the Editor:—Is it all right to serve fruit and vegetables both at the same meal? I know of persons that do not serve both at the same meal because the two foods are thought to counteract each other.

L. M., Michigan.

Answer.—There is no reason why fruits and vegetables should not be served at the same meal.